2016 Annual Report to the Joint Legislative Budget Committee on Assembly Bill 32

(Chapter 488, Statutes of 2006)

The California Global Warming Solutions Act of 2006

Fulfills the Requirements of:
Supplemental Report of the 2012 Budget Act (Item 3900-001-0001 Air Resources Board)
Senate Bill 1018 (Statutes of 2012)

California Environmental Protection Agency
Air Resources Board

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INTRODUCTION

Assembly Bill 32 (AB 32), The California Global Warming Solutions Act of 2006, designates the Air Resources Board (ARB or Board) as the State agency charged with monitoring and regulating sources of greenhouse gas (GHG) emissions. AB 32 set a goal for California to reduce GHG emissions to 1990 levels by 2020, and to maintain and continue reductions beyond 2020. The law tasked ARB with quantifying this goal, implementing a mandatory emissions reporting system, and adopting a Scoping Plan that describes the measures and other actions planned to achieve the target.

AB 32 also highlights the need to continue greenhouse gas reductions beyond 2020. In April 2015, Governor Brown issued Executive Order B-30-15, to establish a midterm GHG emissions reduction target of 40 percent below 1990 levels by 2030. Executive Order B-16-2012, which Governor Brown signed in March 2012, established zero emission vehicle benchmarks and affirmed a long-range climate goal for California to reduce GHG emissions to 80 percent below 1990 levels by 2050.

Legislative Direction. The Supplemental Report of the 2012 Budget Act Item 3900-001-0001 requires ARB to provide the Joint Legislative Budget Committee (JLBC) with multiple reports on its activities and resources to implement AB 32. These reports include:

(1) Semi-annual AB 32 update on key climate programs, including recent developments and upcoming milestones;
(2) Annual AB 32 fiscal report for the prior fiscal year summarizing fees and proceeds coming in, and expenditures going out; and
(3) Annual AB 32 resource reports – one prospective and one retrospective – showing staffing and operations, plus contract expenses, by major program area.

Senate Bill 1018 (Budget and Fiscal Review), Chapter 39, Statutes of 2012, also requires ARB and the Secretary for Environmental Protection to submit the following report to the JLBC on the Western Climate Initiative, Incorporated (WCI, Inc.):

(4) Semi-annual report on any actions proposed by WCI, Inc. that affect California State government or entities located within the State, as well as advance notification of any planned ARB payments to WCI, Inc. over $150,000.

Annual Report Content. This document provides the required annual updates on the four items listed above. It covers ARB's implementation of AB 32 and does not include the activities and resources of other State agencies to implement AB 32. The State Agency Greenhouse Gas Reduction Report Card published by the California Environmental Protection Agency (CalEPA) details the activities of each agency and department to reduce GHG emissions. For more information on the Report Card, please see: https://www.climatechange.ca.gov/climate_action_team/reports/

SECTION 1:

SEMI-ANNUAL AB 32 PROGRAM UPDATE

(July 2015 - June 2016)

This report is required semi-annually by the Supplemental Report of the 2012-13 Budget[1] to highlight significant developments in the last six months and identify upcoming milestones in the next six months in ARB's implementation of AB 32. This semi-annual report[2] provides an update on AB 32 program activities for the second half of 2015. The upcoming milestones in this semi-annual report focus on the first half of 2016. The report format follows the Budget directive, beginning with major regulatory measures, followed by supporting programs, then a discussion of the GHG emission reductions, and concluding with the current funding in the Greenhouse Gas Reduction Fund.

While this program update focuses on the high profile regulations and supporting programs identified in the Supplemental Budget Report, they represent a subset of ARB's activities and resources to address climate change. Additional activities include research, air monitoring, and preparing the emissions inventory (including the Mandatory Reporting Regulation), as well as the development, implementation, and enforcement of over 20 regulations that reduce GHGs as a primary objective or as a co-benefit. These other regulations affect a wide range of activities and facilities, including: passenger vehicles (including their tires and air conditioners); heavy trucks and the trailers they pull; ships at berth; and sources of high global warming potential (GWP) gases like semi-conductor manufacturing, appliance recycling, and consumer products.

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[1] "The California Air Resources Board (CARB) shall submit to the Legislature an AB 32 program update every six months summarizing key program activities. Each update should highlight developments since the previous update, provide advance notice of anticipated major milestones, and include current statewide greenhouse gas (GHG) emission updates. These developments may include, but are not limited to, board hearings and release of significant documents, key support contracts, lawsuits, compliance milestones, and other actions that have the potential to substantially affect the success and effectiveness of the program.

The scope of the program updates should include: significant activities related to CARB's GHG reduction measures (for example, cap-and-trade, low-carbon fuel standard, or advanced clean cars), including an analysis of which programs are having the greatest impact in terms of GHG reductions per dollar spent; key developments on supporting activities such as updates to the AB 32 Scoping Plan, cap-and-trade auction fund regulations, coordination with entities outside of California like the Western Climate Initiative, and SB 375 sustainable communities plans; and the amount of cap-and-trade auction funds deposited into the Greenhouse Gas Reduction Fund and the current balance in that fund."

[2] For previous reports, see: https://www.arb.ca.gov/cc/jlbcreports/jlbcreports.htm

I. ARB GREENHOUSE GAS EMISSION REDUCTION MEASURES

This section focuses on the activities of three major ARB regulatory programs to reduce GHG emissions: Cap-and-Trade, Low Carbon Fuel Standard, and Advanced Clean Cars. Also discussed is the landfill methane regulation mentioned in the supplemental budget language, as well as developments related to reducing emissions from oil production and natural gas operations.

A. Cap-and-Trade

1. Background

California's Cap-and-Trade Regulation (Regulation) is the nation's first comprehensive market-based approach to reducing GHG emissions, and is one of the key measures identified in the AB 32 Scoping Plan. The Regulation was finalized and adopted by the Board in October 2011. Given the complexity of this Regulation and the use of many unique concepts in its design, we provide a lengthier background description below to aid the reader's understanding of these program updates.

Emissions Cap. The Regulation provides a firm declining limit, or cap, on 85 percent of California's GHG emissions. Beginning on January 1, 2013, the cap includes GHG emissions from electricity and large industrial sources. Beginning on January 1, 2015, GHG emissions from transportation fuels and residential and commercial burning of natural gas and propane are included in the cap.

The Regulation is estimated to reduce GHG emissions by about 23 million metric tons (MMT) in 2020, about 30 percent of the total needed to achieve the AB 32 target for that year. Further, the Regulation plays a key role in assuring the 2020 target is met by setting a definitive statewide limit on GHG emissions. For example, in the event that the anticipated reductions from other measures are not realized, the Regulation with its cap serves as a limit on GHG emissions.

Compliance. To comply with the Regulation, entities subject to the Regulation (entities that have one or more facilities or other sources that emit 25,000 metric tons or more of carbon dioxide equivalent (CO_2e) per year), termed "covered entities," must submit compliance instruments (i.e., allowances or offset credits) equal to their emissions. Each allowance or offset credit is equal to one metric ton of CO_2e emissions.

Each covered entity has an annual surrender obligation under the Cap-and-Trade Regulation, and this obligation requires them to surrender compliance instruments equal to 30 percent of their emissions from the prior year. The first annual surrender obligation under the Cap-and-Trade Regulation occurred on November 3, 2014. Covered entities were required to submit compliance instruments sufficient to cover 30 percent of their 2013 emissions by that date. For this first annual obligation, all covered entities successfully transferred sufficient compliance instruments to their accounts to meet their compliance obligations. At the end of each compliance period, which is either a two- or three-year period, entities are required to submit compliance instruments equal to their remaining emissions (70 percent) from years covered by an annual surrender obligation, and all emissions from the final year of the compliance period. The first compliance period surrender obligation occurred on November 2, 2015. Covered entities were required to submit compliance instruments to cover the remaining 70 percent of their 2013 emissions and 100 percent of their 2014 emissions. The November 2, 2015 compliance surrender event saw a 99.8 percent compliance rate.

Allowances*.* Allowances are issued by ARB. A portion of the allowances is allocated to covered entities, some allowances are placed in a cost containment reserve, a portion is placed in a voluntary renewable electricity reserve, and the remaining allowances are auctioned. Each year, the number of allowances declines in proportion to the cap, ensuring that the Regulation achieves intended emission reductions.

In the early years of the Regulation, ARB allocated most allowances to industrial covered entities to provide transition assistance and minimize leakage, and to natural gas and electrical utilities to protect ratepayers from program costs. Beginning in 2015, ARB also provides transition assistance by allocating allowances to universities and public service facilities, power generators with legacy contracts, and public wholesale water agencies.

Leakage refers to a reduction in GHG emissions within the State that results in an increase in GHG emissions outside the State. Risk of leakage is highest for industries in which production is highly “emissions intensive” (leading to high compliance costs) and trade exposed (i.e., facing competition from out-of-State producers). ARB determined leakage risk for industrial sectors based on an evaluation of industry emissions and trade exposure. The results of this analysis informed the allocation of allowances to reduce compliance costs and maintain industry production in California.

One of the factors that ARB utilizes to calculate the number of allowances allocated for each industrial covered entity is GHG emissions efficiency. ARB uses emissions performance standards that evaluate the efficiencies of similar operations in the same industrial sector. This evaluation results in more efficient facilities within a sector receiving free allowances to cover a larger portion of their estimated compliance obligation as compared to less efficient facilities in the same sector. This process recognizes early investments to improve efficiency at facilities within the covered industrial sectors.

ARB staff developed two distinct types of allocation methodologies: (1) product-based, which is tied to production activity and applies to specific industry sectors listed in the Regulation, including the oil and gas extraction and refining sectors; and (2) energy-based, which is tied to fuel use and applies to those industry sectors without a product-based benchmark.

In addition to allocation, a number of allowances were placed in the allowance price containment reserve and the voluntary renewable electricity reserve. The allowance price containment reserve account was established to provide a safety margin for the allowance price and help to mitigate potential volatility in allowance prices. The account holds a specified number of allowances removed from the total pool of allowances at the beginning of the program. Covered entities may purchase reserve allowances at specified prices during direct quarterly reserve sales. The voluntary renewable electricity reserve account was created to support purchases of renewable electricity and renewable energy credits that are not mandated by the Renewables Portfolio Standard. Purchasers of eligible voluntary renewable electricity may request retirement of allowances on their behalf under the Cap-and-Trade Program.

Auctions. From November 2012 through August 2014, ARB held quarterly auctions, selling only California allowances. On August 18, 2014, the last California-specific auction was held selling State-owned 2014 vintage allowances, along with 2014 vintage allowances consigned by the utilities, and State-owned 2017 vintage allowances in the advance auction. Prior to the certification of each auction, ARB staff and the Market Monitor carefully evaluated the auction, and determined that the auction process and procedures complied with the requirements of the Cap-and-Trade Regulation.

On November 25, 2014, the first joint allowance auction was conducted with Québec under the linkage agreement between ARB and Québec. The linkage agreement became effective January 1, 2014. The second, third, fourth, and fifth joint allowance auctions were held in February, May, August, and November 2015, respectively. Future joint auctions will continue to include both California and Québec allowances.

Offsets. Offset credits are another type of tradable compliance instrument. Offset credits represent GHG emissions reductions or avoidance from activities outside of the capped sectors (i.e., reductions in sectors not subject to the Cap-and-Trade Regulation). Covered entities can use ARB- or Québec-issued offset credits to meet up to eight percent of their compliance obligation for each compliance period. For example, if a covered entity has 100,000 metric tons of covered emissions, they must submit no fewer than 92,000 allowances and no more than 8,000 ARB- or Québec-issued offset credits in order to meet their compliance obligation. The ability to use offset credits is an important mechanism for cost containment under the Regulation.

Offset projects are quantified under regulatory protocols that are approved by the Board and must meet the AB 32 offset criteria of being real, additional, quantifiable, permanent, verifiable, and enforceable. ARB has approved offset protocols for six project areas: forestry, urban forestry, mine methane capture, livestock digesters, the destruction of ozone depleting substances, and rice cultivation. ARB accredits third-party verifiers to independently verify all offset project reports. Accredited third-party verifiers have extensive background in related areas, including appropriate field and auditing experience, as well as the scientific and engineering knowledge required for verification. Third-party verifiers must work through ARB accredited verification bodies and must complete ARB's training and pass a specialized test.

ARB can also approve voluntary offset registries that meet regulatory criteria to help administer the program. Offset project registries provide general offset project guidance, reporting, and other support for verification activities. ARB does not delegate any of its oversight or enforcement authority to the verifiers or approved registries. Additionally, ARB does not currently issue offset credits that originate from projects located outside of the United States. However, since California and Québec have a linked cap-and-trade program, ARB does recognize Québec-issued offsets for projects that are implemented in Canada using Québec's adopted offset project protocols. Québec-issued offset credits can be used by California covered entities, within the same eight percent quantitative usage limit described above, to meet a portion of their compliance obligations.

Market Tracking System. The Compliance Instrument Tracking System Service (CITSS) is a market tracking system developed to support the implementation of cap-and-trade programs for California and other jurisdictions. CITSS provides accounts for market participants to hold and retire compliance instruments (allowances and offset credits) and to record transactions regarding compliance instruments (e.g., purchases or trades between account holders).

Market Oversight. ARB continues to put a priority on market oversight to ensure success in reducing emissions and the integrity of the California carbon market. ARB also established a team focused on monitoring and oversight of market activity and market participants. ARB monitors the auctions during the three-hour bidding window and reviews submitted bids to determine if there are any indications of anti-competitive behavior. In addition to engaging in ongoing analysis and modeling, ARB is collaborating with several organizations including the U.S. Commodity Futures Trading Commission, the Federal Energy Regulatory Commission (FERC), the California Independent System Operator (CAISO), and the State Attorney General's Office to anticipate, detect, and respond to market manipulation. The Regulation imposes holding limits and auction purchase limits, as well as other restrictions on auction and trading activity, to prevent participants from acquiring undue market power.

Fuels in the Cap-and-Trade Program. Beginning January 1, 2015, transportation fuels and residential and commercial burning of natural gas and propane became covered by the Cap-and-Trade Program, resulting in a broad program scope covering approximately 85 percent of California's GHG emissions. Including fuels in the program will help achieve the objective of reducing emissions by 2020, and will also help to drive the long-term transition to cleaner fuels well into the future.

Broad Cap-and-Trade Program coverage spreads the compliance obligation across many sectors, increasing the certainty that the overall AB 32 target will be met. This coverage also allows for covered entities to obtain the lowest cost GHG emissions reductions, which in turn minimizes the overall economic impact of the Cap-and-Trade Program. Including fuels under the cap will also provide significant air quality co-benefits, by providing reductions in criteria emissions.

The Low Carbon Fuels Standard and Cap-and-Trade Program are complementary; the two programs work together to encourage the development, deployment, and demand for cleaner fuels. Investments made to comply with one program will result in reduced compliance requirements for the other program, ensuring the price impact on wholesale fuels is reduced.

2. Recent Developments – July through December 2015

ARB activities to support the Cap-and-Trade Program during the second half of 2015 included: continued development and approval of updates to compliance offset protocols, two joint allowance auctions with Québec, ongoing issuance of compliance offset credits, the kick-off of workshops in anticipation of proposed regulatory changes to be released in 2016, and the first triennial compliance instrument surrender deadline. These activities are described in more detail below, along with a discussion of ongoing relevant litigation and contracts that support the Cap-and-Trade Program.

<u>Adoption of 2014 Proposed Regulation Amendments</u>. As described in ARB's last report, staff proposed regulatory amendments on October 28, 2014 to enhance implementation and oversight of the Cap-and-Trade Program. The Board approved Resolution 14-44 on December 18, 2014 directing staff to make appropriate modifications to the Regulation and protocols. These amendments were made available for public comment on May 20, 2015. The rulemaking documents and Board Resolution 14-44 are available at https://www.arb.ca.gov/regact/2014/capandtradeprf14/capandtradeprf14.htm The amended Regulation and protocols were approved by the Board on June 25, 2015 and went into effect on November 1, 2015.

The following are the most significant changes to the Regulation:

- Adding a new Rice Cultivation Projects Compliance Offset Protocol.
- Updating the U.S. Forest Compliance Offset Protocol to extend eligibility to parts of Alaska.
- Specifying a mechanism for early action rice projects to transition their early action offset credits to ARB offset credits.

<u>Workshops for Proposed Regulation 2016 Amendments</u>. ARB staff held a kickoff workshop on October 2, 2015, to commence the public process to develop 2016 amendments to the Cap-and-Trade Regulation. The amendments will aim to incorporate sector-based offsets, update allowance allocation, link the Program with the Canadian province of Ontario, and streamline Program implementation for the third compliance period (2018-2020). Some of the additional goals of these amendments are to prepare for California compliance with U.S. EPA's Clean Power Plan and to continue the program.

Staff held additional workshops in October through December on cost containment and market oversight, sector-based offsets, and compliance with U.S. EPA's Clean Power

Plan. In the coming months, staff will seek to maintain active interaction with all stakeholders through additional workshops and meetings.

Auctions. As described previously, effective January 1, 2015, GHG emissions from transportation fuels and residential and commercial burning of natural gas and propane were covered by the Cap-and-Trade Program. As a result, allowances to be auctioned include jurisdiction-owned allowances and the allowances to be consigned by California electrical distribution utilities and natural gas suppliers.

In sum, about $3.5 billion was raised by the sale of State-owned allowances at the first thirteen auctions through December 31, 2015. As mentioned above, the latest five auctions, held in November 2014, February, May, August, and November 2015, were joint auctions with Québec. More information on Cap-and-Trade auction proceeds is provided in Section 1, part II. D. of this report. Detailed results from the auctions are available at: https://www.arb.ca.gov/cc/capandtrade/auction/auction.htm

Reserve Sale. Reserve sales are scheduled to occur each quarter. No covered entities or opt-in entities indicated an intent to bid for allowances or submitted a bid guarantee by the deadlines for the reserve sales scheduled through December 2015. Therefore, no reserve sales scheduled to date have been held.

Offsets. ARB continues to implement the offsets program, which reduces the costs of compliance with the Regulation and encourages investments in sustainable practices throughout the nation's economy. As of December 31, 2015, ARB has: (1) accredited 80 specially trained third-party offset verifiers, and accredited 15 verification bodies to serve as partners in evaluating the quality of offset projects submitted for approval; (2) continued to oversee and coordinate with the three existing approved offset project registries that help evaluate compliance-grade carbon offset projects under the Regulation; (3) updated the listing of additional early action projects to bring the total to nearly 126, and updated the listing of additional compliance projects to bring the total to nearly 300 (listing signifies these projects are moving toward potential issuance of ARB compliance offset credits); and (4) conducted a thorough desk review of 100 percent of the compliance projects' requests for issuance, and audited either in-person or through desk review,100 percent of the offset protocol project verifications to date. At this time, ARB only issues compliance offset credits for verified offset projects that are developed using the six approved offset protocols and that are located within the United States. ARB issues compliance credits for those projects that comply with the full requirements set forth in the applicable offset protocol and in the Regulation. To date, ARB has issued over 34.8 million compliance offset credits.

Compliance. The first triennial surrender obligation under the Cap-and-Trade Regulation occurred on November 2, 2015. Covered entities were required to submit compliance instruments sufficient to cover the remaining 70 percent of their 2013 emissions and 100 percent of their 2014 emissions. Total covered emissions in the first compliance period equaled approximately 291 million metric tons. Greater than ninety-nine percent of the covered entities transferred compliance instruments to their accounts to meet their compliance obligations.

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Cap-and-Trade Adaptive Management. Cap-and-Trade works with complementary measures at local, State, and federal levels to reduce emissions across California. On October 20, 2011, ARB approved an Adaptive Management Plan to closely monitor any localized and forest effects occurring under the Cap-and-Trade Program.

In November 2015, ARB staff released for public input a Discussion Guide outlining the proposed Cap-and-Trade Adaptive Management Process for monitoring and responding to emission trends occurring under Cap-and-Trade. The Proposed Process will monitor changes in emissions at:

- Individual facilities covered by the Cap-and-Trade Regulation, and
- California communities with multiple facilities covered by the Cap-and-Trade Regulation.

The Proposed Process will also monitor emissions over multiple years to determine trends at individual facilities, in California communities, and across industrial sectors. To advise on key aspects of data analytics, staff included an Adaptive Management Work Group consisting of environmental health, environmental justice, public health, air district, and industry representatives in the Proposed Process. ARB's Adaptive Management Process may be used as a model for California's compliance with U.S EPA's 111(d) Clean Power Plan process as well.

ARB staff held public workshops in early November 2015 and continues to review comments on the process. ARB believes localized air impacts due to the Cap-and-Trade Program are very unlikely. However, ARB's goal is a transparent public process for addressing potential emissions increases in California communities as a result of Cap-and-Trade.

ARB's contract with the University of California at Davis (UC Davis) to develop recommendations for a monitoring system for unanticipated adverse biological impacts caused by the U.S. Forest Protocol is complete. This work supports ARB's efforts to use an adaptive management approach to address unanticipated forest impacts that could occur as part of the implementation of the Cap-and-Trade Program.

ARB is continuing to develop a multi-phase proposal to assess the effects of the Cap-and-Trade Program (benefits and potential impacts) on disadvantaged communities. A draft proposal for the Cap-and-Trade Adaptive Management process was presented at public meetings in 2015. ARB staff continues to refine the proposal through a public process.

Cap-and-Trade Litigation. In 2015, there was activity in three existing court cases against ARB regarding the Cap-and-Trade Program. In addition, two new court cases were filed. This section describes these five cases.

California Chamber of Commerce v. California Air Resources Board and *Morning Star Packing Company v. California Air Resources Board:*

The related cases of *California Chamber of Commerce v. California Air Resources Board* and *Morning Star Packing Company v. California Air Resources Board* challenge ARB's Cap-and-Trade auction system. Plaintiffs/Petitioners in these cases make two basic arguments. First, they challenge ARB's authority under AB 32 to conduct auctions and reserve sales under the Cap-and-Trade Program. Second, they argue the State's auction and reserve sales constitute an unconstitutional tax.

A hearing on the merits of these cases was held in Sacramento Superior Court on August 28, 2013.

On November 12, 2013, the court issued a joint decision in both cases, denying the two petitions and finding in favor of ARB on all counts. With respect to the authority question, the Court found that "the sale of allowances is within the broad scope of authority delegated to ARB in AB 32." On the constitutional argument, the court upheld ARB's auction provisions and determined that "the primary purpose of the charges [from ARB's auction sales] is regulatory," not tax-related.

The court's decision became final on December 20, 2013. The California Chamber of Commerce, Morning Star Packing Company, and an intervener supporting their position—the National Association of Manufacturers—filed notices of appeal in the Third District Court of Appeal and opening briefs. The answering briefs of ARB and interveners supporting ARB's position—the Environmental Defense Fund and Natural Resources Defense Council—were filed on March 19, 2015, and appellants filed their reply briefs between May 1 and May 6, 2015. Five outside interests, or amici, requested the court's permission to file their own briefs. The court granted those requests, and the amicus briefs were filed on May 26, 2015. ARB, the California Chamber of Commerce, and the National Association of Manufacturers answered the amici on June 25-26, 2015. The court has not yet set a date for hearing.

Citizens Climate Lobby and Our Children's Earth Foundation v. California Air Resources Board:

Citizens Climate Lobby and *Our Children's Earth Foundation v. California Air Resources Board* challenged the inclusion of offset credits in the California Cap-and-Trade Program. The petitioners argued that the offsets do not meet the Health and Safety Code § 38562(d)(2) requirement that offset emission reductions are "[i]n addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur."

Their petition sought a writ of mandate declaratory relief and injunctive relief, so as to prohibit the Air Resources Board (ARB) from issuing any offset credits.

Judge Goldsmith issued his Statement of Decision on January 25, 2013 denying the petitioners' writ and upholding ARB's inclusion of the offset credits. The final Order and Judgment was issued on March 25, 2013. Petitioners filed a Motion to Vacate on April 9, 2013. Notice of Appeal was only filed by *Our Children's Earth* on May 24, 2013. On appeal, the Petitioner's Brief was filed on August 20, 2013. ARB's Opposition Brief was filed October 11, 2013. Oral argument occurred in the Court of Appeal on December 9, 2014, and the Court of Appeal upheld the Superior Court's decision on February 23, 2015. The petitioners requested review by the California Supreme Court. The California Supreme Court denied the petition for review on June 10, 2015. The case is now resolved in ARB's favor.

Sowinski v. California Air Resources Board, et al.:

The plaintiff in *Sowinski v. California Air Resources Board, et al.*, alleges that the Cap-and-Trade Program's auction platform infringes on a patent he obtained in 2003. The plaintiff also alleges claims of elder abuse under California Welfare and Institutions Code section 15610.30 and a violation of California Business and Professions Code section 17200 (the Unfair Competition Law). The plaintiff seeks both damages and injunctive relief.

The plaintiff filed his complaint in Orange County Superior Court on November 24, 2015. A co-defendant, SRA International, Inc., removed the case to federal court (the United States District Court for the Central District of California [Santa Ana]) on December 21, 2015. As of January 6, 2016, ARB has not yet responded to the complaint.

Kimberly Clark Worldwide, Inc. v. California Air Resources Board, et al.:

The plaintiff in this writ action, filed in Sacramento County Superior Court on November 25, 2015, alleges that the Cap-and-Trade Program's tissue benchmark for greenhouse gas emissions efficiency, as found at 17 California Code of Regulations section 95891, Table 9-1, is arbitrary and capricious and was promulgated in a manner contrary to the Administrative Procedure Act. The writ petition seeks a court order striking down the existing tissue benchmark and reinstating the prior benchmark. As of January 6, 2016, ARB is preparing the record in this matter.

Cap-and-Trade Program Contracts. Academia and private contractors are helping ARB achieve the goals of AB 32 while ensuring the cost-effectiveness of the program. Current contracting efforts are directed at accessing administrative support functions through the Western Climate Initiative, Inc. (WCI, Inc.), including support for ARB's auctions and reserve sales, financial services for auctions and reserve sales, and monitoring the carbon market; measuring and monitoring the potential for GHG emissions leakage; helping ARB develop emissions efficiency benchmarks in order to allocate allowances to minimize leakage; and implementing the forest offset and rice cultivation protocols. Key on-going contracts are discussed in recent developments, and contracts in development are discussed in the upcoming milestones section below.

Cap-and-Trade Program Administration Contracts:

As part of collaborating with other jurisdictions, ARB accesses administrative support for the Cap-and-Trade Program through WCI, Inc. Section 4 of this document describes WCI, Inc. and its activities, including administrative support provided through contracts.

Other Cap-and-Trade Program Contracts:

- In collaboration with economic researchers from Resources for the Future and the University of California at Berkeley, ARB continued leakage research efforts to establish a baseline for how industries have historically responded to energy price changes and to identify metrics to evaluate future leakage risk. Any changes in leakage risk determinations would require regulatory amendments, which would need to be in place before industrial allocation occurs for the third compliance period in fall 2017.

- ARB initiated a study with the California Polytechnic University in San Luis Obispo and the University of California (UC) to analyze the ability of the food processing sector to pass on regulatory costs to consumers and to the agricultural sector. The analysis will be used to assess leakage risk, which will inform the allocation of allowances for the sector in the third compliance period. Researchers are currently collecting facility data and anticipate providing preliminary results in 2016.

- ARB has contracted with California Polytechnic State University, San Luis Obispo, to provide technical forestry support to ARB staff, taking into account programmatic, policy, biometric, modeling, biological, and harvest management activities. The contract will support development of guidance to simplify highly complex calculations, and increase the understanding and accessibility of protocol requirements under ARB's compliance offset protocol for forestry projects.

- ARB has contracted with Michigan State University to update software to facilitate reporting of the required data and streamline calculation of emission reductions from adoption of eligible farming practices under the proposed rice cultivation protocol. This contract will aid in keeping project costs down and limit the time farmers have to spend complying with protocol requirements.

3. Upcoming Milestones – January through June 2016

Below is a brief summary of some of the upcoming milestones ARB is working to achieve during the first half of 2016. More information on ARB activities and upcoming public meetings related to the Cap-and-Trade Program can be found at: https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm

- ARB will continue to hold quarterly joint auctions with Québec as scheduled in the Regulation (February, May, August, November).

- Staff expects to integrate any market program amendments needed to support California's compliance strategy under U.S. EPA's 111(d) Clean Power Plan into planned Cap-and-Trade Regulation amendments. Although the design of ARB's compliance strategy is still being determined, staff anticipates relying substantially on the carbon market's successful efforts to reduce emissions across the economy, including within the power sector. More information on the Clean Power Plan can be found in Section 1, Part II, B, of this report.

- ARB staff anticipates continuing to conduct workshops to discuss potential amendments to the Cap-and-Trade Regulation for the third compliance period (2018-2020), including updates to allowance allocation and information management streamlining, offsets streamlining, potential inclusion of sector-based offset credits, and other changes yet to be determined. Staff will also hold workshops to discuss potential amendments to the Regulation to continue the program beyond 2020.

- Additional public meetings for adaptive management are planned for early 2016. Staff is seeking input on the process and an updated GHG emissions mapping tool. Staff will also be releasing the revised draft Adaptive Management Process in early 2016 and intend to formally present to the Board in the second half of 2016.

- The report containing the UC Davis recommendations for a monitoring system for unanticipated adverse biological impacts caused by the U.S. Forest Protocol will be released in early 2016.

B. Low Carbon Fuel Standard

1. Background

ARB approved the Low Carbon Fuel Standard Regulation (LCFS) in 2009 with requirements to reduce the carbon intensity (CI) of gasoline and diesel fuels by at least 10 percent by 2020. This standard sets declining annual targets between 2011 and 2020.

The LCFS requires regulated parties to submit quarterly progress and annual compliance reports to ARB. To this end, ARB developed the LCFS Reporting Tool (LRT), a secure, interactive, web-based system, through which all regulated parties are required to report data on fuel volumes and CI. A Credit Bank & Transfer System has been integrated online with the LRT to handle the recording of LCFS credit transfers. To date there are approximately 200 regulated parties reporting in the LRT. Through their reports, these providers of transportation fuels must demonstrate that the mix of fuels they supply meets LCFS CI standards for each annual compliance period. Each fuel in the mix is assigned a CI value, based on the "life cycle" GHG emissions associated with the production, transportation, and use of fuels in motor vehicles. Each fuel's complete life cycle, from "well-to-wheels" (or from "seed-to-wheels" for biofuels made from crops), represents that fuel's "fuel pathway."

Cumulatively through the end of the fourth quarter of 2015, there have been a total of about 16.55 million metric tons of credits and 9.14 million metric tons of deficits, for a net total of about 7.41 million metric tons of credits.[3] This excess means that regulated parties are over-complying with the LCFS, generating additional LCFS credits that can be used for future compliance when the standard becomes more stringent.

Despite these positive indicators, the petroleum refining industry remains concerned about compliance with the LCFS in future years when the standard becomes more stringent. Specifically, the petroleum refining industry believes that lower-CI liquid biofuels they prefer to blend with conventional gasoline and diesel fuel are not being developed quickly enough in commercial quantities and will not be available. Staff continues to believe that the availability of these advanced biofuels will grow sufficiently to meet demand. Additionally, liquid biofuels are just one of several paths that refiners can take to comply with the LCFS. They can also purchase LCFS credits in the marketplace from producers of lower-CI fuels, such as electricity, natural gas, biogas, and hydrogen, or they can invest in the production of these fuels to generate their own LCFS credits.

In December 2009 and early 2010, three lawsuits were filed against ARB over the LCFS—two in federal court and one in State court. The federal lawsuits were brought

[3] Reference: ARB "2015 LCFS Reporting Tool (LRT) Quarterly Data Summary – Report No. 4" at: http://www.arb.ca.gov/fuels/lcfs/dashboard/quarterlysummary/20160415_q4datasummary.pdf.

by trade associations of ethanol producers and refiners who claim that the LCFS is preempted under the federal Energy Independence and Security Act (EISA) of 2007 and violates the dormant Commerce Clause of the U.S. Constitution (either because the LCFS impermissibly regulates activities beyond California's borders or because it discriminates against out-of-State corn ethanol by assigning corn ethanol from the Midwest a CI value higher than that of corn ethanol made in California). Plaintiffs claim that corn ethanol will eventually be excluded from the California market in favor of more advanced biofuels that have a lower CI value. In contrast, ARB showed that many corn ethanol producers from the Midwest have in fact registered fuels with ARB CI values well below gasoline and, indeed, even less than California corn ethanol. The LCFS program allows for a determination of individualized CI numbers for each facility, provided that certain criteria are met.

In December 2011, the lower court ruled against ARB on the dormant Commerce Clause claims and issued a preliminary injunction against ARB but did not address the federal EISA preemption issue. In April 2012, the Ninth Circuit granted ARB's request for a stay of the preliminary injunction, which allowed ARB to resume enforcement of the LCFS regulation during the pendency of the lawsuit.

On September 18, 2013, a three-judge panel of the Ninth Circuit ruled that the ethanol provisions in the LCFS are not facially discriminatory and remanded the case for the district court to determine whether the ethanol provisions discriminate in purpose or effect. Furthermore, the Ninth Circuit ruled that the LCFS crude oil provisions do not discriminate either facially or in purpose or effect. The Court left the LCFS in place. The plaintiffs filed for *en banc* hearing with the Ninth Circuit, which the court subsequently denied. The U.S. Supreme Court acted on June 30, 2014, denying three petitions for certiorari. The denial was without comment; the practical effect was to leave standing the Ninth Circuit Court of Appeals decision.

In August 2011, a State court case alleged that ARB did not fully comply with the Administrative Procedure Act and the California Environmental Quality Act when adopting the LCFS. In November 2011, the State Superior court ruled in favor of ARB on all fourteen causes of action raised by the plaintiffs. The plaintiffs appealed the case, and on July 15, 2013, the Court of Appeal (Fifth District, Fresno) issued its opinion, finding that ARB had committed some procedural violations in adopting the Regulation but holding that the LCFS would remain in effect and that ARB can continue to implement and enforce the LCFS while ARB corrects certain aspects of the procedures by which the LCFS was originally adopted. Accordingly, ARB staff continued to implement and enforce the LCFS at the 2013 compliance standards while working on a 2015 rulemaking for re-adoption of a consolidated regulation package that responds to the Court's decision and contains additional amendments important for the continued success of the LCFS program. Meanwhile, the 2013 LCFS standards, which represent a 1.0 percent decrease in carbon intensity from the 2010 baseline values for gasoline and diesel, have remained in effect through 2015.

The first ARB Board hearing to consider the re-adoption of the LCFS and the adoption of the Alternative Diesel Fuel (ADF) regulations took place on February 19, 2015. Based on the comments and testimony received during the 45-day comment period preceding the ARB Board hearing, the Board directed staff to continue its work on the proposed LCFS and ADF regulations.

In addition to the 14 public workshops conducted in 2014 related to the proposed re-adoption of the LCFS, ARB conducted an additional public workshop on April 3, 2015, to discuss updates to the California-Modified Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (CA-GREET) Model, version 2.0. Staff also released three 15-day packages for comments from stakeholders. Additionally, in 2013 and 2014, staff held seven public workshops on the development of the ADF regulation, as well as an informational webinar.

In January 2015, ARB requested an external peer review of staff's methodology in calculating fuel carbon intensities and use of three life cycle greenhouse gas emissions models, including the CA-GREET Model, the Oil Production Greenhouse Gas Emissions Estimator (OPGEE) Model, and the Global Trade Analysis Project (GTAP-BIO) Model combined with the Agro-Ecological Zone Emissions Factor (AEZ-EF) Model. The purpose of a peer review is to determine whether the scientific portions of the regulation are based upon "sound scientific knowledge, methods, and practices," pursuant to Health and Safety Code section 57004.[4] The peer review was completed in May 2015. The written reviews submitted by the peer reviewers are posted at the following web page: https://www.arb.ca.gov/fuels/lcfs/peerreview/peerreview.htm

2. Recent Developments – July through December 2015

LCFS Rulemaking. As noted, staff presented the re-adoption package for the LCFS to the Board at a hearing on February 19, 2015. This was followed by a second Board hearing to consider the re-adoption of the LCFS on September 24 and 25, 2015. After hearing staff's proposed updates to the LCFS and considering all the public comments and staff's responses, the Board approved the re-adoption of the LCFS regulation. The final rulemaking packages were approved by the Office of Administrative Law (OAL) on November 16, 2015, and are expected to take effect on January 1, 2016.

To further assist stakeholders in transitioning to the updated LCFS regulation, staff conducted a workshop on November 6, 2015, to discuss pathway re-certification using the CA-GREET 2.0 model and the LCFS Reporting Tool and Credit Bank and Transfer System. Staff also began preliminary discussion of third-party monitoring, verification, and voluntary sustainability concepts during this workshop, which ARB staff is planning to present to the Board for consideration in 2016.

Alternative Diesel Fuel Regulation. The ADF rulemaking effort follows several years of research and analysis to determine the air emissions and other environmental impacts

[4] Health and Safety Code, Division 26, Part 5, Chapter 4, section 57004(d)(2).

of both renewable diesel and biodiesel as viable petroleum diesel fuel replacements. These two fuels are currently used in blends containing conventional petroleum-based diesel fuel and, as they become more prevalent in the market, will serve to displace petroleum-based diesel fuel. Renewable diesel is chemically indistinguishable from petroleum diesel and thus, is subject to the current petroleum diesel regulations and is not covered by the Alternative Diesel Fuel Regulation. Conversely, biodiesel is chemically different from petroleum diesel fuel; and as such, the ADF regulation establishes in-use requirements and fuel specifications for biodiesel.

Because of the incentives provided by both the LCFS and the federal renewable fuel standard, the California fuels market is experiencing an increase in innovative motor vehicle fuels that are produced from renewable sources and have lower carbon intensity, relative to conventional fuels. Most notably, alternative diesel fuels (such as biodiesel and dimethyl ether) are becoming more prevalent and as fuel proponents endeavor to bring these fuels to market, they face a complex set of federal and State regulations. To help facilitate this growing trend of diesel fuel alternatives, staff developed the new ADF regulation to provide a systematic and clear process that will result in environmental protections, while supporting rapid deployment of these fuels that may help meet the objectives of AB 32.

The ADF regulation establishes a comprehensive, three-stage process governing the commercialization of new alternative diesel fuels in California. The first stage is a pilot program which consists of a screening analysis and would allow limited sales of a regulated alternative diesel fuel while it undergoes an initial evaluation; the second stage is fuel specification development, an intermediate stage with expanded sales governed by enhanced monitoring, testing, and a multimedia evaluation; the third stage is commercial sales, a final stage with full-scale commercial sales and provisions designed to maintain environmental and public health protections as needed. In addition to the three-stage commercialization process, the proposed regulation also contains specific provisions for biodiesel to address potential oxides of nitrogen (NOx) increases associated with its use.

3. Upcoming Milestones – January through June 2016

Below is a brief summary of some of the upcoming milestones for LCFS and related programs during the first half of 2016. More information on activities and upcoming public meetings related to the LCFS can be found at:
https://www.arb.ca.gov/fuels/lcfs/lcfs.htm

The new LCFS and ADF regulations come into effect on January 1, 2016, and staff will be implementing the new regulations. Staff will also begin the re-certification process of fuel pathways, and will continue collaborating with stakeholders to develop proposals for third-party monitoring, verification, and voluntary sustainability certification under the LCFS to be considered by the Board in 2016.

C. Advanced Clean Cars

1. Background

ARB developed the Advanced Clean Cars Program to reduce emissions from the transportation sector that achieve California's long-term climate goals, and to provide a comprehensive approach to further reduce criteria and GHG emissions from light-duty vehicles beyond 2016. This recent Program closely aligns the Low Emission Vehicle (LEV) light-duty vehicle standards (both criteria and greenhouse gas emission regulations), and the Zero Emission Vehicle (ZEV) regulation, supported by State incentives, to lay the foundation for the next generation of ultra-clean vehicles. Specifically, the Advanced Clean Cars Program includes more stringent GHG emission standards, tighter criteria pollutant standards, and increased ZEV production requirements for passenger cars and trucks through the 2025 model year. This suite of regulations will reduce GHG emissions by about 3.1 MMT in 2020, approximately 4 percent of the total needed to achieve the AB 32 target for that year. These regulations are furthering California's progress toward near- and long-term climate goals, as well as aiding attainment of ambient air quality standards.

Zero Emission Vehicle Program. In January 2012, ARB approved the Advanced Clean Cars Program through rulemaking. The ZEV regulation was amended as part of the rulemaking, increasing the requirements over time to about 15 percent of new car sales in 2025. The ZEV regulation focuses attention on commercialization of battery electric vehicles, hydrogen fuel cell electric vehicles, and plug-in hybrid electric vehicles. The ZEV regulation will continue as a distinct but complementary program in California and the nine other states that have also adopted it. The program is a critical element toward meeting the 2050 GHG emissions reduction goal established by Executive Order B-16-2012, which sets a target to reduce GHG emissions in the transportation sector by 80 percent below 1990 levels.[5]

GHG Light-Duty Vehicle Standards. More stringent GHG emission standards were developed through a joint effort with the United States Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) that evaluated available and emerging GHG emission reduction technologies for light-duty vehicles. These requirements will reduce new car carbon dioxide-equivalent emissions by about 36 percent and new truck carbon dioxide emissions by about 32 percent for the 2016-2025 model years. In October 2012, U.S. EPA finalized similar GHG emission standards while NHTSA finalized fuel economy standards, which will each yield similar GHG emissions reductions as California's requirements. Subsequently, in November 2012, the Board approved amendments to the Advanced Clean Cars regulations that allow vehicle manufacturers to demonstrate compliance with ARB regulations based on compliance with the federal standards, providing a path for vehicle manufacturers to meet a single set of national GHG emission standards through the 2025 model year.

[5] Executive Order S-03-05 (2005) originally established the economy-wide GHG 2050 target, whereas E.O. B-16-2012 further established that the transportation sector meet its equal share of the reductions.

On December 27, 2012, U.S. EPA approved ARB's request for a waiver under the Clean Air Act, giving California the "green light" on its Advanced Clean Cars package of regulations.

Because of the technology-forcing nature of the standards and California's commitment to a national program, ARB is conducting a midterm review of the adopted standards for model years 2022 to 2025 in collaboration with U.S. EPA and NHTSA. The target release date for the agencies' joint technical assessment is in mid-2016, with a staff update to the Board in fall of 2016. This review will be used to inform ARB and the federal agencies whether to maintain the standards as adopted or consider revising them. To date, the automobile industry has outperformed the GHG standard by a substantial margin.[6]

Clean Vehicle Rebate Program (CVRP). To support consumer adoption of ZEVs, ARB continues to implement CVRP. CVRP has grown from a $4 million dollar project in 2010 to an estimated $175 million project in the 2016-17 timeframe. Over the life of the program, about 135,000 vehicles have received rebates, totaling $287 million. This project supports broad ZEV adoption through rebates to consumers for the purchase or lease of new plug-in hybrid electric vehicles and ZEVS. The project is aimed at helping California meet ZEV deployment, air quality, and GHG emission reduction goals.

2. Recent Developments – July through December 2015

- To support the development of ZEVs, ARB staff continued to implement CVRP and are developing pilot projects to increase the deployment of advanced technology vehicles, including ZEVs, in disadvantaged communities.

- In September 2015, the Legislature appropriated to ARB $90 million in Low Carbon Transportation funding, of which $75 million was allocated to CVRP. This funding makes up only a portion of the amount identified in the Fiscal Year 2015-2016 Funding Plan, and serves as bridge funding until the Legislature acts on the remaining Cap-and-Trade auction proceeds. For CVRP, this allocation is expected to carry the project until April 2016.

Advanced Clean Cars Contracts. ARB continues to pursue several contracts to support overall implementation of the Advanced Clean Cars Program and the midterm review.

[6]Reference: http://www.epa.gov/oms/climate/ghg-report.htm

- ARB has contracted with UC Davis to conduct research on the ZEV market. The objective is to capture statewide data on consumer attitudes, barriers, and motivators for purchasing ZEVs. The purpose of the research is to identify the factors that influence new-vehicle purchase decisions and the areas where additional policies, incentives, or outreach could be implemented to facilitate greater adoption rates of cleaner cars. The project is called, "New Car Buyers' Valuation of Zero Emission Vehicles." The project has been completed and was presented to the Research Screening Committee in December 2015 where it was officially accepted by the Committee.

- ARB has also contracted with UC Davis to conduct research on household-level plug-in electric vehicle usage and charging behavior in order to quantify emission benefits. The project is called, "Advanced Plug-in Electric Vehicle Travel and Charging Behavior." Data collection has begun, and draft results from the first round of households are expected in mid-2016.

- ARB has contracted with UC Davis to conduct research on the secondary ZEV market. The project is called, "The Dynamics of Plug-in Electric Vehicles in the Secondary Market and Their Implications for Vehicle Demand, Durability, and Emissions." Results will inform future decisions by ARB policymakers on the treatment of ZEVs by various ARB programs, such as incentives, durability requirements, or vehicle crediting. The survey is currently being developed for this contract.

- ARB has contracted with the University of California at Los Angeles (UCLA) to evaluate trends in the emerging ZEV market relative to policy and market factors. The project is called, "Examining Factors That Influence ZEV Sales in California." The final report has been drafted and is currently under review.

3. Upcoming Milestones – January through June 2016

Below is a brief summary of some of the upcoming milestones for Advanced Clean Cars during the first half of 2016. More information on staff's activities and upcoming public meetings on this program can be found at:
https://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc.htm

- ARB staff continues its work on the midterm review of the Advanced Clean Cars Program, in consultation with the Board. In conjunction with U.S. EPA and NHTSA, ARB is assessing the technology used, compliance rates, and costs associated with the greenhouse gas emission standards for light-duty vehicles. Additionally, California is reviewing the adopted particulate matter standards and the ZEV regulation, as well as market uptake of ZEVs and plug-in hybrid electric vehicles. Staff will return to the Board in late 2016 to present the midterm review of the Advanced Clean Cars regulations, which includes a review of the ZEV regulation. This will be an informational update to the Board, and will seek the Board's direction on the future of the regulations.

- Staff will hold an Advanced Clean Cars symposium in September 2016 on all parts of the midterm review.

- ARB staff will continue implementing CVRP and light-duty pilot projects to increase the deployment of advanced technology vehicles, including ZEVs, in disadvantaged communities.

D. Landfill Methane

1. Background

On June 25, 2009, the Board approved a regulation that reduces emissions of methane from municipal solid waste (MSW) landfills. The landfill methane control measure is a discrete early action measure. The Landfill Regulation, which became effective in June 2010, requires owners and operators of certain MSW landfills to install gas collection and control systems. It also requires owners of landfills with existing and newly installed gas collection and control systems to operate them in an optimal manner.

ARB originally estimated that there would be a total reduction of about 1.5 MMT of CO_2e as a result of bringing 14 uncontrolled MSW landfills into compliance with the regulation by 2020 along with the implementation and enforcement of this regulation for the remaining estimated 204 affected MSW landfills (including those with gas collections systems already installed). The 1.5 MMT reduction estimate was based on assumed statewide gas collection efficiency. To reduce the uncertainty in the assumed collection efficiency, ARB and CalRecycle will undertake a joint research study in 2016 to verify the statewide gas collection efficiency and refine the estimated reduction.

The Landfill Regulation allows the local air districts to voluntarily enter into a Memorandum of Understanding (MOU) with ARB to implement and enforce the Landfill Regulation and to assess fees to cover their costs. ARB developed the MOU template in consultation with representatives from the California Air Pollution Control Officers Association. Upon signing the MOU, primary enforcement authority is transferred to the local air district. ARB retains its right to enforce the Landfill Regulation, if necessary.

Having local air districts participate in the enforcement process capitalizes on their expertise (many air districts regulate other types of emissions from landfills), takes advantage of their physical location closer to the sources, and reduces the State's cost of implementing the Landfill Regulation. This collaboration is an example of a partnership between ARB and the local air districts, working together to achieve the goals of AB 32.

2. Recent Developments – July through December 2015

During the second half of 2015, ARB worked to increase enforcement activities with inspections, audits, and compliance assistance training. More information on ARB activities on this effort, and upcoming public meetings can be found at: https://www.arb.ca.gov/cc/landfills/landfills.htm

- To date, 23 air districts have signed the MOU. No additional air districts signed the MOU in the second half of 2015. ARB continues to work with the remaining local air districts to encourage their participation in the MOU.

- ARB has provided training to one additional air district during the second half of 2015. This brings the total number to 21 MOU participating air districts for which ARB has provided training to assist in implementing and enforcing the Regulation. Other local air districts that are considering signing the MOU have expressed interest in training within their regions.

- Out of the original 14 MSW landfills that were listed as uncontrolled in ARB's Staff Report: Initial Statement of Reasons for the Proposed Regulation to Reduce Methane Emissions from MSW Landfills (May 2009), seven have now installed landfill gas collection and control systems. No new system plans were filed in the second half of 2015. Two additional landfills may be required to submit design plans to install gas collection and control systems pending reviews of their surface demonstration testing.

- ARB is continuing to work on the MOU with local air districts in order to further refine the information contained in the State's landfill database.

3. Upcoming Milestones – January through June 2016

- ARB plans to offer additional training sessions to interested local air districts, and to make available a modified version of this training to landfill owners and operators and interested governmental agencies.

- ARB will continue conducting audits through inspections, reviewing documents, and coordinating with local air districts to ensure compliance with the Landfill Regulation.

- ARB will continue to focus enforcement activities on landfills located in districts that have not signed an MOU because these landfills have a greater potential for elevated methane emissions.

- In the future, ARB, in collaboration with CalRecycle, may consider additional actions to further reduce and capture methane emissions from landfills consistent with the requirements of AB 32 and the Short-Lived Climate Pollutants (SLCP) Strategy per SB 605 (Lara, Chapter 523, Statutes of 2014) described in Section 1, Part II, A.

E. Crude Oil and Natural Gas Production, Processing, and Storage

1. Background

The initial Scoping Plan proposed the development of a measure to reduce venting and fugitive GHG (methane) emissions associated with oil and gas production, processing, and storage. This measure is known as the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities Regulation. By definition, releases of gases, such as methane or CO_2, into the atmosphere that are intentional, are called "vented emissions." Those that are unintentional releases are called "fugitive emissions." In 2009, ARB undertook a survey of the industry to improve the emissions inventory for this sector. The survey results showed that about 1.3 million metric tons of CO_2e come from vented and fugitive methane emissions in the oil and natural gas production, processing, and storage sector. These emissions come from various sources, such as storage tanks, compressor seals, and leaking components including valves, flanges, and connectors.

This measure was not originally envisioned to address well stimulation, which includes hydraulic fracturing (or fracking). However, with the passage of SB 4 (Pavley, Chapter 313) in 2013, ARB has expanded its investigation to consider and reduce methane, Volatile Organic Compound (VOC), and toxic air contaminant emissions resulting from well stimulation activities. Pursuant to SB 4, ARB staff is working with the local air pollution control and air quality management districts, as well as with the Department of Conservation's Division of Oil, Gas, and Geothermal Resources (DOGGR) and other relevant State agencies, to coordinate efforts and maximize the effectiveness of measures to address well stimulation emissions.

2. Recent Developments – July through December 2015

- ARB continued its efforts working with air districts' staff and CAPCOA management to discuss methane control strategies, as well as implementation and enforcement approaches.

- ARB worked with stakeholders to understand and incorporate, where appropriate, their suggested revisions to the draft regulatory language presented at ARB's April 2015 workshops.

- In light of the natural gas leak at Aliso Canyon in Southern California, staff is working with stakeholders to develop amendments to the regulation that will aid in early detection of such leaks in the future. Such amendments could include more frequent methane monitoring at underground natural gas storage facilities.

- ARB continued working with its contractor to measure methane leak concentrations and flow rates at California oil and natural gas facilities, to develop methane concentration-to-flow rate correlation factors, and to evaluate different types of methane leak detection equipment. All of the emissions testing from the methane leak detection contract were completed. A final report from the testing contractor was completed and submitted to ARB.

3. Upcoming Milestones – January through June 2016

- ARB will release a second draft of the proposed regulatory language to the public for review and comment in February.

- ARB will hold another workshop in February 2016 to discuss these proposed changes.

- ARB plans to present the proposed Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities Regulation to the Board in July 2016.

II. ARB ACTIVITIES TO SUPPORT AB 32

This section focuses on major AB 32 support activities identified in the supplemental budget language: Updates to the AB 32 Scoping Plan, coordination with entities outside California, implementation of SB 375 sustainable communities' plans, and the use of Cap-and-Trade auction proceeds. Also included is information on the development of the Sustainable Freight Strategy, which will drive further actions to provide significant benefits for climate, regional air quality and localized health risk reduction.

A. <u>Scoping Plan</u>

1. Background

AB 32 requires ARB to take the lead, in close coordination with other State agencies, to prepare and adopt a Scoping Plan that describes how the State will reduce GHG emissions to 1990 levels by 2020. The initial Scoping Plan was first approved by the Board in December 2008, and contained a range of GHG emission reduction actions that could be taken. These actions include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade program, and an AB 32 program implementation fee to fund the program.

Since 2008, ARB has worked with other State and local agencies to implement the climate change programs outlined in the initial Scoping Plan. California has undertaken a number of notable groundbreaking climate change initiatives including the first in the nation economy-wide Cap-and-Trade Program (page 3), the Low Carbon Fuel Standard (page 14), the Advanced Clean Cars Program (page 18), a 33 percent Renewable Portfolio Standard, and the Sustainable Communities program (page 36). Many of these actions have been bold and ambitious.

AB 32 further requires that the Scoping Plan be updated at least every five years. The Board approved the first update to the Scoping Plan (2013 First Update) in May 2014. The 2013 First Update reflects public input and recommendations from business, environmental, environmental justice, and community-based organizations. The 2013 First Update also recommended the need for a 2030 midterm target to establish a continuum of action to reduce emissions, not just for stated limits in 2020 or 2050, but also every year in between.

On April 29, 2015, Governor Jerry Brown issued Executive Order B-30-15 to establish a California GHG emissions reduction target of 40 percent below 1990 levels by 2030 (2030 Target). The 2030 Target is the most aggressive benchmark enacted by any government in the United States so far to reduce GHG emissions over the next 15 years. Setting a transformational 2030 Target is necessary to guide policy and investments in California, and sends a message around the world that California is a potential partner and role model for implementing climate change mitigation strategies. To achieve these goals, ARB has been tasked with creating a 2030 Target Scoping Plan Update by the end of 2016, as a framework for achieving the Governor’s 2030 targets for GHG emission reductions.

Concurrent planning efforts related to energy efficiency in existing buildings (AB 758), SLCP, sustainable freight, Greenhouse Gas Reduction Fund investments, forest and agriculture health, and others will be coordinated with, and feed into, the 2030 Target Scoping Plan.

The Governor's Executive Order aligned California's 2030 GHG emission reductions target with those of leading international governments ahead of the United Nations Climate Change Conference of Parties in Paris (COP 21) held in December 2015. The 28-nation European Union had established the same greenhouse gas emission reduction target for 2030 in October 2014.

California is currently on track to meet or exceed the AB 32 target of reducing GHG emissions to 1990 levels by 2020. Setting targets for 2030 is critical to help frame the additional suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue driving down emissions to the 2050 goal of 80 percent below 1990 levels. This goal aligns with the IPCC’s scientific consensus of GHG emissions reduction levels needed to limit global warming to 2 degrees Celsius above pre-industrial levels -- the threshold that scientists determined that if exceeded, will create more catastrophic climate disruptions including extreme droughts, major sea level rise, more frequent and intense wildfires, heat waves, more severe smog, extensive harm to agricultural productivity and natural and working lands, and public health. Additionally, GHG emission reductions from all sources – including non-CO_2 gases, land uses such as agriculture, and natural and working lands – are all necessary to mitigate climate change.

2. Recent Developments -- July through December 2015

Since Board approval of the First Scoping Plan Update in May 2014, several of the recommendations in the First Update are currently being implemented, and plans to implement other recommendations are on the horizon. See the sections on Cap-and-Trade, LCFS, Advanced Clean Cars, Sustainable Communities, Oil and Gas, Sustainable Freight, and Cap-and-Trade Auction Proceeds, in this report for a description of the current activities related to each of these programs.

The following are current Scoping Plan activities, including the implementation of the First Scoping Plan Update recommendations and the initiation of the 2030 Target Scoping Plan Update.

- During the summer of 2015, ARB, the California Energy Commission (CEC), Public Utilities Commission (CPUC), Natural Resources Agency (CNRA), and Department of Food and Agriculture (CDFA) held public symposia for each of the key climate change strategy pillars that were identified in Governor Brown's January 2015 Inaugural Address. The pillars recognize that several major areas of the California economy will need to reduce emissions to meet the 2030 Target.

  The pillars include: (1) reducing petroleum use in cars and trucks by up to 50 percent; (2) increasing from 33 to 50 percent the electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved in existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other SLCPs; (5) managing farms and rangelands, forests and wetlands so they can store carbon; and (6) periodically updating the State's climate adaptation strategy: Safeguarding California.

  Public recordings of the symposia are available on ARB's website at: https://www.arb.ca.gov/cc/pillars/pillars.htm

- On September 30, 2015, ARB released a SLCP Draft Strategy describing ways in which California can move forward aggressively to reduce GHG and smog-forming emissions from a group of chemicals with extremely high global warming potential. When finalized, the SLCP Strategy (required by SB 605 (Lara, Chapter 523, Statutes of 2014)) will address current research activities related to black carbon, methane, and hydrofluorocarbons (HFCs). The Strategy will focus on identifying research gaps, emission inventories for each pollutant, current control measures being implemented, and potential new measures to provide additional reductions.

- ARB also held three regional workshops on the SLCP Draft Strategy for public input and comment in October 2015. More information and updates are posted on ARB's website at: https://www.arb.ca.gov/cc/shortlived/shortlived.htm

- On October 1, 2015, the California Environmental Protection Agency, California State Transportation Agency, California Energy Commission, California Public Utilities Commission, California Natural Resources Agency, California Department of Food and Agriculture, Air Resources Board, and Governor's Office of Planning and Research held a kickoff 2030 Target Scoping Plan public workshop to continue moving forward with the 2030 Target Scoping Plan update process, which reflects California's new goal to reduce greenhouse gas emissions 40 percent below 1990 levels by 2030, as directed in Executive Order B-30-15. The meeting was open to the public and full participation by all parties was encouraged. More information and updates are posted on ARB's website, at: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm

- To advise the Board on the development of the 2030 Target Scoping Plan, ARB resumed hosting meetings for the AB 32 Environmental Justice Advisory Committee (EJAC).[7] The EJAC met on December 7, 2015, and heard an overview of ARB's efforts on the 2030 Target Scoping Plan as well as other ARB programs, including the SLCP Draft Strategy, California's plan to comply with the U.S. EPA's Clean Power Plan, and the Cap-and-Trade Program.

- California's Forest Climate Action Team (FCAT) has continued to hold bi-monthly meetings to focus on crafting a Forest Carbon Plan. The Forest Carbon Plan will provide recommendations on how to set quantitative GHG planning targets for California's forests. The FCAT is considering how to best align the development of the Forest Carbon Plan with the goals and timeframe of the 2030 Target Scoping Plan Update. More information on FCAT activities is available on CAL FIRE's website at: http://www.fire.ca.gov/fcat

- CDFA is currently implementing the Healthy Soils Initiative in response to the Governor's climate change goals expressed in his Inaugural Address in January 2015. The Environmental Farming Act Science Advisory Panel has continued to hold meetings that focus on the potential opportunities to rebuild carbon storage capacity in agricultural soils and discuss the potential strategies for achieving those goals. More information on the Healthy Soils Initiative can be found on CDFA's website at: http://www.cdfa.ca.gov/EnvironmentalStewardship/HealthySoils.html

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[7] The Environmental Justice Advisory Committee was convened pursuant to the Health and Safety Code, section 38591.

- Discussions are on-going among the State’s energy agencies and ARB regarding the energy sector recommendations identified in the First Scoping Plan Update, the 2030 Target, the requirements of SB 350 (De León, 2015), and intersections with the federal Clean Power Plan.

- California's Department of Resources Recycling and Recovery continued discussions with the Department of General Services on the State Agency Buy Recycled Campaign to identify potential improvements in the procurement of recycled-content products.

3. Upcoming Milestones – January through June 2016

- A draft 2030 Target Scoping Plan Update will be released in the first half of 2016 for public input and comment. It is expected to be completed and considered by the Board in late 2016. As part of that process, public workshops will be held over the next several months to discuss new and existing approaches for reducing emissions on a sector-by-sector basis.

- In early 2016, ARB is expecting to release a Proposed SLCP Reduction Strategy and draft environmental analysis (EA) on the Strategy for public comment. A final SLCP Reduction Strategy, the final EA, and written responses to comments on the EA will be presented to the Board later in 2016.

- ARB expects to hold several EJAC meetings in 2016 in various California locations to facilitate the Committee’s development of recommendations for the 2030 Target Scoping Plan. Additional information as well as meeting notices and agendas are available on the ARB website at: https://www.arb.ca.gov/cc/ejac/ejac.htm

- ARB will continue its partnership with CAL FIRE and other State agencies and partners in setting carbon sequestration goals for California’s forests in the Natural and Working Lands sector. FCAT meetings will continue bi-monthly, working toward producing the Forest Carbon Plan that will be developed in coordination with the 2030 Target Scoping Plan Update process.

- ARB will continue its partnership with CDFA and other State agencies with regard to the Healthy Soils Initiative to support carbon sequestration and GHG emission reductions in the Agriculture Sector.

More information on ARB activities regarding Scoping Plan updates and implementation can be found at: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm

B. Coordination with Other Entities Outside of California

1. Background

AB 32 requires ARB to "consult with other states, the federal government, and other nations to identify the most effective strategies and methods to reduce greenhouse gases, manage greenhouse gas control programs, and to facilitate the development of integrated and cost-effective regional, national, and international greenhouse gas reduction programs." Pursuant to this requirement, and in the spirit of expanding international action to address global climate change, ARB engages with interested jurisdictions outside of California.

ARB works closely with other entities at the local, State, regional, national, and international levels to guarantee that the rigorous standards established by California are understood and potentially implemented by other jurisdictions. Where other states and nations are developing or implementing their own GHG reduction programs, ARB looks to coordinate with committed partners to expand action to tackle global climate change by sharing California's programs, policies and best practices so that their program designs complement California's efforts and benefit the State to the maximum extent feasible.

One focus of ARB's efforts has been with partner jurisdictions to build an integrated, regional carbon market and expand cost-effective emission reduction opportunities. These efforts have included developing the administrative support activities managed by the Western Climate Initiative, Inc. (WCI, Inc.).

ARB has worked with Québec to link cap-and-trade programs. After satisfying the requirements of Senate Bill 1018 (Committee on Budget and Fiscal Review, Chapter 39, Statutes of 2012), and completing the Linkage Readiness Report requested by the Governor, the California and Québec cap-and-trade programs were linked on January 1, 2014. This linkage enables compliance instruments to be transferred among participants in the two programs. Linkage also enables allowance auctions to be conducted jointly. See Section 1, A. Cap-and-Trade, for more information.

In April 2015, the Province of Ontario announced its intention to develop and implement a cap-and-trade program to reduce greenhouse gas emissions. Ontario indicated that it hopes to link its program, once developed, with the existing California and Québec linked cap-and-trade programs. In May 2015, Ontario also announced a midterm target to reduce emissions by 37 percent below 1990 levels by 2030.

2. Western Climate Initiative, Inc.

WCI, Inc. is a non-profit corporation that focuses solely on providing administrative support. WCI, Inc. coordinates administrative services to cap-and-trade programs developed and implemented by states and provinces. The Board of Directors for WCI, Inc. includes officials from the provinces of Québec, Ontario, and British Columbia, and the State of California. The services provided by WCI, Inc. can be expanded to support jurisdictions that join in the future.

WCI, Inc. is solely administrative in nature. All policymaking and regulatory authority for each jurisdiction's program is retained by each jurisdiction. According to the WCI, Inc. bylaws, its administrative activities must "…conform to the requirements of State and Provincial programs…" The requirements are defined by the participating jurisdictions, such that WCI, Inc. must execute its administrative role in conformance with the requirements established by ARB and the other jurisdictions.

Section 4 of this report provides the semi-annual update to the Legislature on the activities of WCI, Inc. Please see this section for further information.

3. Other Federal and Other State Governments

ARB coordinates with entities at the state, federal, and international levels that have or are developing climate-related program elements similar to those of California to ensure that important provisions are as consistent as possible, where appropriate. This coordination makes certain that the State's and stakeholders' investment in developing California regulations facilitates future broadening of policies to other jurisdictions and strengthens California's ability to compete in the global economy.
ARB works closely with federal agencies including: U.S. EPA, the U.S. Department of State, the U.S. Agency for International Development, the Commodity Futures Trading Commission, and the Federal Energy Regulatory Commission (FERC), on climate change issues.

The Mandatory Reporting Regulation for GHG emissions is modeled on, and periodically updated to maintain consistency with, U.S. EPA's GHG reporting rule. The Compliance Instrument Tracking System Service market registry and emissions trading system for California's Cap-and-Trade Regulation was built in cooperation with U.S. EPA on the framework used in other emissions trading systems, including the federal Acid Rain Program and the Northeast states' Regional Greenhouse Gas Initiative. The industrial emissions benchmarking methodology used in California's Cap-and-Trade Program was developed in coordination with partners in other U.S. states, Canadian provinces, and the European Union. In the second half of 2015, ARB continued coordinating with the Commodity Futures Trading Commission and Federal Energy Regulatory Commission to strengthen carbon and related energy market monitoring, oversight, and enforcement.

In August 2015, U.S. EPA finalized its "Clean Power Plan" – the first federal limitations on GHG emissions from existing power plants developed under the federal Clean Air Act, section 111(d). The final rules set GHG targets for 2030 (along with an interim target applicable from 2022-2029) for the states, based upon the application of the best system of emission reductions demonstrated for the sector. U.S. EPA identified this system as consisting of an array of demonstrated power sector measures – including efficiency improvements, fuel switching, and use of zero carbon energy resources that can displace emissions at fossil fuel-fired power plants. For flexibility, states may use these or other measures to comply, including emissions trading systems. Each state will be required to submit a federally enforceable plan to attain the federal targets. State plans are due in September 2016, with the possibility of one- to two-year extensions.

Nationally, the Clean Power Plan will provide many critical public health benefits, since power plants account for roughly one-third of all domestic GHG emissions. With the Clean Power Plan, U.S. EPA is building on trends already underway in states and the power sector. By 2030, U.S. EPA projects that its plan will result in reducing carbon emissions from the power sector by 32 percent below 2005 levels nationwide. It will also cut emissions that lead to smog and soot by more than 25 percent, which will better protect public health. The program is also expected to reduce energy bills if states comply in part by increasing the use of energy efficiency measures.

ARB, CPUC, and CEC have worked collaboratively with many stakeholders and regulatory entities, including California air districts and the California Independent System Operator, to ensure that California will be able to submit an effective compliance plan in a timely manner. California’s carbon market, along with major investments in renewable energy and energy efficiency, among other programs, has put the State in a strong position to comply. In addition, Governor Brown’s Executive Order B-30-15, signed in April 2015, directs State agencies to develop strategies to reduce GHG emissions 40 percent below 1990 levels by 2030. This executive order will further enhance the State’s ability to comply with the federal Clean Power Plan. Preliminary analysis of California’s projected emissions in the 2020 – 2030 period indicates that the State will meet or exceed U.S. EPA’s standards. Accordingly, ARB is focused on developing a State compliance plan that will continue to extend successful GHG reduction measures for the electricity sector, and operate harmoniously with the existing State carbon market and other important regulatory initiatives.

Thus far, State efforts have included submitting extensive comments to U.S. EPA in December 2013 and November 2014 on its regulatory proposals, testimony by ARB Chairman Nichols to the U.S. Senate Committee on Environment and Public Works in support of the Clean Power Plan, testimony by the ARB Executive Office and CPUC executive staff to the Federal Energy Regulatory Commission in support of the Plan, participation in multiple regional and national working groups, and ongoing staff efforts to evaluate options for California’s compliance plan. After the rule’s release, ARB and cooperating agencies promptly began the formal public process needed to fully develop and submit the compliance plan, including a kick-off workshop in September 2015, and a follow-up workshop to explore the connections between the Clean Power Plan and Cap-and-Trade in December 2015. ARB and its partners will also pursue any actions necessary to defend and enhance the finalized federal program.

U.S. EPA and ARB also routinely coordinate on advanced transportation and fuels, including the relationship between the federal Renewable Fuels Standard and the California Low Carbon Fuel Standard (LCFS). Furthermore, ARB’s work with U.S. EPA and its federal partners was instrumental to the success of the Advanced Clean Cars Program.

ARB has also been working with other states and provincial governments on low carbon fuels issues to share insights gained from developing and implementing California's LCFS. In October 2013, Governor Brown signed the Pacific Coast Action Plan on Climate and Energy with Governor John Kitzhaber of Oregon, Governor Jay Inslee of Washington, and Premier Christy Clark of British Columbia. Among other activities, the agreement commits each jurisdiction to reduce GHG emissions by putting a price on carbon, transforming markets for energy efficiency, and adopting or maintaining low carbon fuel standards. [8]

To further the objectives of the Action Plan, ARB staff has been collaborating with staff in British Columbia and Oregon on their low carbon fuel standard programs. ARB staff and Executive Office members have met several times and participated in multiple conference calls with their counterparts within the Pacific Coast Collaborative to discuss the design elements and challenges of a low carbon fuel standard.

To facilitate the use of consistent methodologies, staff continues to work closely with Oregon and British Columbia on ARB's web-based LCFS Reporting Tool and Credit Bank and Transfer System (LRT-CBTS). Regulated parties use the LRT-CBTS to report the volumes and carbon intensities of the transportation fuels that they have introduced into the California fuels market, as well as conducting credit transfers; therefore, it is used for both reporting and compliance purposes. ARB signed software license agreements with both jurisdictions, which enabled Oregon and British Columbia to use the LRT-CBTS for data collection in their jurisdictions. Work continues with these governments regarding the technical details of making elements of the LRT-CBTS available, including security, program maintenance, and update capabilities.

4. International

California has advanced several strategic national and international partnerships, including an MOU with Mexico. This MOU, which was signed by the Governor in Mexico City on July 28, 2014, provides for cooperation on emissions trading systems and vehicles, as well as forest management, air quality, and wildfires. The MOU is a four-year effort with four priority action areas: climate change, air quality, wildfires and clean vehicles. ARB is the California lead for three of the work groups that are organizing the work under the MOU: climate change, air quality, and clean vehicles.

During the second half of 2015, the climate change work group continued to exchange information with the Mexican Secretariat of Environment and Natural Resources (SEMARNAT) via regular bi-weekly calls. The focus of cooperation to date has been monitoring, reporting and verification of greenhouse gas emissions, with both sides

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[8] In July 2015, a transportation bill was passed in Washington that includes a provision that hinders prospects for a low-carbon fuel standard in that state.

recognizing this as the necessary foundation for further collaboration. ARB met with SEMARNAT officials in person in conjunction with the September 2015 Partnership for Market Readiness meeting that was held in Sacramento. Staffing limitations in Mexico and lack of resources on both sides to facilitate travel and other exchange opportunities have had an impact on further progress.

Governor Brown, ARB and other agencies including CalEPA and CEC, have also been working with several entities in China to advance efforts to reduce GHG emissions and combat air pollution. China has recently become the world's leading emitter of GHG emissions and is a critical partner in addressing global climate change. Similarly, many cities in China are suffering from hazardous air pollution, some of which drifts across the ocean to California. Sharing California's leading expertise on reducing air pollution can provide mutual benefits to China, California and global climate. Accordingly, California and China entered into a number of agreements in 2013 and 2014, and have undertaken several activities under these agreements. In 2013, California formalized working relationships with China on climate programs. Activities related to the relationship in the second half of 2015 include:

- On July 13, 2015, Assistant Executive Officer Michael Gibbs met with a delegation from China's National Development and Reform Commission regarding the laws and regulations that are the foundation of California's climate programs.

- On July 22, 2015, a delegation from the Shanghai Center for Disease Control met with ARB staff in Sacramento to learn about air pollution modeling and the use of such models for public health investigation.

- On July 30, 2015, a delegation from Hubei Provincial Environmental Protection Bureau visited ARB's Haagen-Smit Laboratory in El Monte to learn about vehicle emissions testing.

- August 1-9, 2015, Assistant Executive Officer Michael Gibbs participated in the California State Delegation Environment and Trade Mission to China, which included presenting California's 2030 goals at several government organizations.

- On August 19, 2015, Chair Mary D. Nichols met with a UC/ITS Davis China-California ZEV Policy Laboratory delegation, including representatives from the China Automotive Technology and Research Center and the Ministry of Industry and Information Technology.

- On August 20 and 27, 2015, ARB worked with the UCLA Air Quality Management Training Program to provide a tour of the Haagen-Smit Laboratory to representatives of various Chinese governmental and media organizations.

- From September 6-10, 2015, ARB's Freight Emissions Testing & Research Branch Chief Tao Huai traveled to Beijing to give a technical presentation at the Asian Vehicle Emission Control Conference 2015.

- On September 8, 2015, ARB staff met with a delegation from Beijing Transport Energy and Environment Center to discuss policies and implementation of emission reductions for transport, including zero emission vehicles and heavy-duty vehicles.

- September 15-20, 2015, Deputy Executive Officer Alberto Ayala traveled to Beijing to participate in the final meeting of the China Council for International Cooperation on Environment and Development, Special Policy Study on Off-Road Emissions and SLCPs.

- On September 25, 2015, ARB staff met with a delegation from China's National Center for Climate Change Strategy and International Cooperation regarding emissions trading.

- September 28-October 9, 2015, ARB hosted two environmental scientists from the Beijing Environmental Protection Bureau who were in California on a 90-day visit to learn about air quality planning, enforcement, and permitting.

- On October 20, 2015, ARB senior management and staff met with a delegation from the Jiangsu Environmental Protection Department regarding air quality planning and emission inventory development.

- October 20-23, 2015, In-Use Vehicles Programs Branch Chief Sharon Lemieux traveled to Beijing to deliver two speeches at the 5th Annual China-U.S. Workshop on Mobile Source Emissions Control.

- On October 22, 2015, ARB management met with a delegation from China's National Development and Reform Commission regarding the legal foundations for California's Cap-and-Trade program.

- On November 3, 2015, ARB management and staff met with a delegation from Shenzhen Human Settlement and Environment Committee regarding reducing air pollution emissions at ports.

- On November 30, December 7-10, and December 14, 2015, ARB hosted two environmental scientists from the Beijing Environmental Protection Bureau who were in California on a 90-day visit to learn about air quality planning, enforcement, and permitting. The visit included lab tours and site visits to a cement plant and the Port of Los Angeles.

- On December 9, 2015, ARB staff met with a delegation from the Department of Agriculture of Guangdong, China, regarding reducing air pollution emissions from agricultural operations.

- December 14-15, ARB managers and staff met with two engineers from the China Automobile Technology and Research Center (CATARC) regarding On-Board Diagnostics II requirements for reducing emissions from passenger vehicles.

- On December 15, 2015, Assistant Executive Officer Michael Gibbs met with the delegation from the Beijing Development and Reform Commission regarding California's Cap-and-Trade program.

ARB continues to engage in discussions with other governmental agencies outside of California to share information and experiences about the design of programs aimed at reducing emissions from deforestation and forest degradation, and to begin evaluating whether and how such programs could potentially be included in California's Cap-and-Trade Regulation in the future. Aside from offset credits issued by Québec, ARB does not currently accept any offset credits from outside of the United States at this time, and any future inclusion would require new rulemaking. A description of this ongoing engagement is included in the first update to the AB 32 Scoping Plan, which describes ARB's involvement with the Governors' Climate and Forests Task Force and the importance of continuing to assess tropical forests in order to address climate change. ARB staff presented an update to the Board in July 2014 regarding ARB's work on this topic, released a white paper on October 19, 2015, and further discussed this ongoing work at a public workshop on October 28, 2015.

ARB has also received a number of visiting delegations from other countries interested in California's climate change policies. During the second half of 2015, ARB received seven foreign delegations to discuss climate change policies, including delegations from the United Kingdom, India, Chile, and Australia. In addition, September 6-10, 2015, Science and Technology Policy Advisor Ryan McCarthy traveled to Paris to participate in meetings and panels at the Climate & Clean Air Coalition (CCAC) Working Group Meeting, which focused on short-lived climate pollutants.

ARB has also participated in meetings of the Partnership for Market Readiness, a multilateral World Bank initiative that brings together more than 30 developed and developing countries to share experience and build capacity for climate change mitigation efforts, particularly those implemented using market instruments. In November 2014, ARB became a Technical Partner of the Partnership for Market Readiness. Staff participated in a technical workshop of the Partnership for Market Readiness in Jordan in October 2015, and Cap-and-Trade staff participated in a Partnership for Market Readiness meeting in Sacramento in September 2015.

On May 19, 2015, California entered into the Under 2 Memorandum of Understanding (MOU) with Baden-Württemberg, Germany; Acre, Brazil; Catalonia, Spain; Wales, United Kingdom; and several Mexican states and Canadian provinces. The Under 2 MOU originated out of the desire to bring together ambitious states and regions willing to make a number of key commitments towards emissions reduction and to help galvanize action at the United Nations Framework Convention on Climate Change (UNFCCC) 21st Conference of the Parties (COP 21). Central to the agreement is that all signatories agree to reduce their greenhouse gas emissions 80 to 95 percent, or limit emissions to 2 metric tons CO_2-equivalent per capita, by 2050. During the second half of 2015, Chair Mary D. Nichols joined Governor Brown and Secretary Rodriquez in participating in several signing ceremonies for new signatories to the Under 2 MOU. On December 5-11, 2015, Chair Mary D. Nichols traveled to COP 21 in Paris, France, as part of Governor Brown's delegation. She spoke at many side events highlighting California's climate policies and initiatives, including the Under 2 MOU. By the end of 2015, the MOU had been signed by 123 jurisdictions representing more than 720 million people and $19.9 trillion in combined GDP, equivalent to more than a quarter of the global economy.

In August 2015, California launched the International Zero-Emission Vehicle (ZEV) Alliance with the Netherlands and Québec to accelerate global adoption of ZEVs. By December 2015, the alliance had grown to include 14 members: British Columbia, California, Connecticut, Germany, Maryland, Massachusetts, The Netherlands, New York, Norway, Oregon, Quebec, Rhode Island, the United Kingdom, and Vermont. In conjunction with the COP 21 in Paris, the ZEV Alliance announced a goal of making all passenger vehicle sales in their jurisdictions ZEVs as quickly as possible and no later than 2050. ARB plays a key role in the ZEV Alliance on policy and technical matters.

As California's programs have continued to gain international attention and recognition, requests to host delegations, visit other states and countries, and enter into partnerships have continued and increased. As a result of the Under 2 MOU and the interest in California's climate programs as a model for countries that have made commitments to reduce greenhouse gases under the Paris Climate Agreement, the ongoing stream of strategic international partnerships, initiatives, and requests made of ARB for information sharing is anticipated to continue during the first half of 2016.

C. SB 375 – Sustainable Communities Plans

1. Background

SB 375 (Steinberg, Chapter 728, Statutes of 2008), also known as the Sustainable Communities and Climate Protection Act, reduces GHG emissions from passenger vehicles through improved regional transportation and land use planning. SB 375 directs regions to integrate development patterns and transportation networks in a way that achieves passenger vehicle GHG emissions reductions while addressing housing needs and other regional planning objectives.

ARB is required to set regional GHG emissions reduction targets for passenger vehicles for 2020 and 2035 for the State's federally designated Metropolitan Planning Organizations (MPO). Each MPO is then required to adopt and submit to ARB a sustainable communities strategy (SCS) that uses land use and transportation strategies to reduce the region's passenger vehicle GHG emissions. ARB's statutory responsibility under SB 375 is to then accept or reject an MPO's determination that its

SCS would, if implemented, meet the targets. An MPO must develop an alternative planning strategy if its SCS fails to meet ARB targets.

In 2010, ARB set the regional GHG emissions reduction targets required under SB 375 (see Table 1-1). In the four most heavily populated regions of the State, the Board-approved targets are expected to achieve per capita GHG emissions reductions of 7 to 8 percent by 2020, and between 13 and 16 percent in 2035, compared to 2005 levels. Achieving these targets means statewide GHG emissions reductions of over 3 MMT in 2020 and 15 MMT in 2035. The regions include Southern California, the Bay Area, San Diego, and the Sacramento Metropolitan Area.

Table 1-1: Metropolitan Planning Organization (MPO) Region	**Targets ***	
	2020	**2035**
Southern California Association of Governments (SCAG)	-8	-13
Metropolitan Transportation Commission (MTC)	-7	-15
San Diego Association of Governments (SANDAG)	-7	-13
Sacramento Area Council of Governments (SACOG)	-7	-16
8 San Joaquin Valley Councils of Governments	-5	-10
Tahoe Metropolitan Planning Organization	-7	-5
Shasta Regional Transportation Agency	0	0
Butte County Association of Governments	+1	+1
San Luis Obispo Council of Governments	-8	-8
Santa Barbara County Association of Governments	0	0
Association of Monterey Bay Area Governments	0	-5

* Targets are expressed as percent change in per capita GHG emissions relative to 2005.

Under the law, ARB has specific statutory responsibility to determine whether the SCS, if implemented, would achieve the GHG emission reduction targets. In July 2011, ARB staff released to the public a methodology that details how ARB evaluates MPO SCSs in order to fulfill its responsibility under the law. ARB's methodology can be found at https://www.arb.ca.gov/cc/sb375/scs_review_methodology.pdf

Of the major MPOs, San Diego's SCS was adopted by the San Diego Association of Governments in October 2011, followed by the Southern California Association of Governments' and the Sacramento Area Council of Governments' plans in 2012, and the Metropolitan Transportation Commission's plan in 2013. Staff presented status updates to the Board on the development of these plans. Based on staff's evaluation, ARB's Executive Officer accepted all four SCSs through Executive Orders on behalf of the Board. In December 2012, the Tahoe and Butte MPOs adopted their respective plans; in August 2013 the Santa Barbara region adopted its plan, and in June 2014 the Monterey Bay region adopted its plan. The Board approved resolutions accepting these four SCSs.

2. Recent Developments – July through December 2015

By September 2014, all eight of the San Joaquin Valley MPO Boards adopted their SCSs. ARB staff has completed its evaluations of six of these plans. While all eight San Joaquin Valley MPOs have adopted their 2014 regional transportation plans containing SCSs, two of those regions' SCSs (those for Merced and Madera) do not meet the GHG emission reduction targets. As a result, the Merced County Association of Governments and the Madera County Transportation Commission will prepare alternative planning strategies. ARB staff's technical evaluation of the San Joaquin Valley SCSs has been enhanced by having copies of the travel models provided by the MPOs of Fresno, Kern, Kings, San Joaquin, Stanislaus and Tulare counties. The Board approved resolutions accepting the GHG quantifications for the Fresno Council of Governments (COG) in January, for the San Joaquin COG in May, for the Stanislaus COG in June, and for the Kern COG in July of 2015. In October 2015, the Board accepted the Kings County Association of Governments' and Tulare County Association of Governments' GHG quantifications.

The San Luis Obispo Region adopted its SCS in April 2015, and ARB staff's technical evaluation was presented to the Board and approved in June 2015. The Shasta Regional Transportation Agency (SRTA) adopted its SCS in June 2015 and ARB staff's technical evaluation was presented to the Board and approved in October 2015.

Because RTP/SCS updates occur on a rolling 4-year schedule, some MPOs are already developing their second SCSs. SANDAG adopted its second SCS in October 2015. Based on staff's evaluation, ARB's Executive Officer accepted SANDAG's GHG quantification through an Executive Order in December 2015.

<u>Target Update</u>. ARB staff has developed a process and timeline to update the SB 375 targets in 2016. Staff has been meeting with MPOs individually or in small groups regarding region-specific factors and technical information that will inform proposed target recommendations.

<u>Interregional Travel</u>. Because of its potential impact on GHG quantification, ARB is funding research to better understand how interregional travel is currently estimated. Under contract with ARB, the University of California Irvine will conduct a comprehensive review of existing methodologies and identify the weaknesses and advantages of each. This study will also propose alternate methods to better represent interregional travel, and to make recommendations on data needs and modeling policy. ARB has continued to monitor this research through 2015, with results expected in May 2016.

<u>Funding for SCS Implementation</u>. ARB staff continues to work with the Strategic Growth Council (SGC) as it revises guidelines and implementation criteria for the second round of SGC's Affordable Housing and Sustainable Communities (AHSC) Program funded through the Greenhouse Gas Reduction Fund. This program funds projects that reduce GHG emissions by supporting more compact infill development,

encouraging active transportation and transit usage, and protecting agricultural land from sprawl development.

Sustainable Communities Contracts. ARB is providing funding for several research projects to support land use and transportation planning, including research on: the economic benefits and costs of smart growth strategies, effects of complete streets on travel behavior, the relationship between transit-oriented development and displacement of low-income residents and effectiveness of anti-displacement policies, the impact of light rail transit on travel behavior in Southern California, and modeling household vehicle and transportation choice and usage. ARB is also providing funding for a project to monitor and track land-use indicators that measure the success of SB 375 implementation; the scope of this work is currently being developed. In addition, ARB is funding three research projects aimed at finding solutions to the exposure of sensitive land uses to near-roadway pollution. More details on these research projects as well as information on completed and future research may be found at: https://www.arb.ca.gov/research/sustainable/landuse.htm

3. Upcoming Milestones – January through June 2016

As each MPO adopts a new SCS, ARB staff will evaluate the plan to determine whether the SCS, if implemented, would achieve the GHG emission reduction targets. ARB will periodically report to the Board on these actions. More information on staff's activities and upcoming meetings can be found at: https://www.arb.ca.gov/cc/sb375/sb375.htm

- ARB staff will continue to work with the MPOs, as directed by the Board, to develop recommendations for updating their emission reduction targets. Staff will develop target recommendations, with MPO input, and provide an informational update to the Board in spring 2016. The proposed targets will be available in early 2017, and will undergo a public process prior to consideration by the Board.

- ARB staff will complete technical evaluations of SACOG's and SCAG's second SCSs, each scheduled for adoption in spring 2016. ARB's Executive Officer will either accept or reject these adopted SCSs through Executive Orders.

- ARB staff will continue to meet with stakeholders at key milestones in the target update process to advance the development of tools, metrics, and methods for estimating co-benefits of SCS implementation.

- ARB staff will continue to engage with SGC on the Greenhouse Gas Reduction Fund revenue appropriated for SCS program implementation, enabling GHG reductions from SB 375 to be effectively realized, along with numerous other community and environmental co-benefits.

- The UC Irvine research on interregional travel will be completed and the results will help inform improvements in future regional modeling approaches.

D. Cap-and-Trade Auction Proceeds

1. Background

A portion of the allowances required for compliance with the Cap-and-Trade Regulation are sold at quarterly auctions and reserve sales. The auctioned allowances are a mix of State-owned allowances, Québec-owned allowances, and allowances consigned to auction by electric utilities. The Legislature and Governor approve the expenditure of the State's portion of these auction proceeds (which does not include the proceeds from Québec-owned allowances or allowances consigned to auction by the utilities) to invest in projects that support the goals of AB 32. Strategic investment of proceeds furthers AB 32 implementation, including support of long-term, transformative efforts to improve public and environmental health and develop a clean energy economy.

<u>State-owned allowances</u>: In 2012, the Legislature passed and Governor Brown signed into law three bills—AB 1532 (Pérez, Chapter 807), SB 535 (De León, Chapter 830), and SB 1018 (Budget and Fiscal Review Committee, Chapter 39)—that established the Greenhouse Gas Reduction Fund (GGRF) to receive the State's portion of the auction proceeds and provided the framework for how those auction proceeds will be allocated. This legislation established the broad categories of GHG emission-reducing projects that may be funded, including investments in:

- Clean and efficient energy;
- Low-carbon transportation;
- Natural resource conservation and management and solid waste diversion; and,
- Sustainable infrastructure and strategic planning.

In addition to reducing GHG emissions in California, the implementing legislation established the following goals for this funding, where applicable and feasible:

- Maximize economic, environmental, and public health benefits;
- Create jobs;
- Complement efforts to improve air quality;
- Invest in projects that benefit disadvantaged communities;
- Provide opportunities for businesses, public agencies, nonprofits, and others to participate in efforts to reduce GHG emissions; and,
- Lessen the impacts and effects of climate change.

At least 25 percent of program funding is to be directed to projects that provide benefits to disadvantaged communities and at least ten percent of program funding must be spent on projects located in disadvantaged communities. CalEPA is required to identify these communities for investment purposes.[9]

AB 1532 established a two-step process for allocating proceeds from the sale of State-owned allowances. The two-step process involves developing an investment plan and then appropriating the funds through the annual Budget Act, in accordance with that investment plan.

1. *Three-Year Investment Plan*: The Department of Finance, in consultation with ARB and other State agencies, developed and submitted to the Legislature the first three-year Cap-and-Trade Auction Proceeds Investment Plan (Investment Plan)[10] identifying priority programs for investment of proceeds to support achievement of the State's GHG emission reduction goals.

2. *Annual Budget Appropriations:* Funding is appropriated by the Legislature and Governor through the annual Budget Act, consistent with the Investment Plan.

On March 1, 2014, Governor Brown signed SB 103 (Budget and Fiscal Review), Chapter 2, Statutes of 2014, to provide $70 million in GGRF monies to three State agencies for projects that improve water use efficiency and reduce GHG emissions associated with water conveyance.

On June 20, 2014, Governor Brown signed the FY 2014-15 Budget Act and SB 862 (Budget and Fiscal Review), Chapter 36, a budget trailer bill, which establishes requirements for State agencies receiving appropriations of GGRF monies in FY 2014-15 and later years. The 2014 Budget Act included $832 million in appropriations from the GGRF to administering agencies to invest in projects, consistent with the Investment Plan, and to support the administration of their programs. SB 862 also established continuing appropriations totaling 60 percent of the GGRF monies beginning in 2015-16 for High Speed Rail, affordable housing and sustainable communities, transit capital projects, and low carbon transit operations. In March of 2015, the Legislature enacted an emergency drought bill, AB 91 (Committee on Budget), Chapter 1, Statutes of 2015 to amend the Budget Act of 2014 in order to provide an additional $30 million from the GGRF for water-energy efficiency programs.

The 2015 Budget Act was enacted with appropriations to support administrative costs. Subsequent budget appropriations in September 2015 allocated FY 2015-16 funds to a subset of existing programs, including low carbon transportation, low-income weatherization programs, and water-energy efficiency programs. These appropriations are in addition to the continuing appropriations established in 2014 by SB 862.

[9] CalEPA and the Office of Environmental Health Hazard Assessment identify disadvantaged communities based on a tool called the California Communities Environmental Health Screening Tool (CalEnviroScreen). For more information on CalEnviroScreen: http://oehha.ca.gov/ej/ces042313.html
[10] The first three year Cap-and-Trade Auction Proceeds Investment Plan can be found here: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/auctionproceeds.htm

Total appropriations to date are listed in Table 1-2. Prior to expending funds, each department must complete an Expenditure Record pursuant to SB 1018. ARB reviews these expenditure records and posts them on the ARB website.

Table 1-2:
Appropriations for Greenhouse Gas Reduction Fund Programs
(as of December 31, 2015)

Program and State Agency	**FY2013-14** Millions	**FY2014-15** Millions	**FY2015-16** Millions
High Speed Rail (California High Speed Rail Authority)		$250	$850*
Transit and Intercity Rail Capital Program (California Department of Transportation/California Transportation Commission)		$25	$265
Low Carbon Transit Operations Program (California Department of Transportation to local agencies)		$25	$145
Affordable Housing and Sustainable Communities (Strategic Growth Council)		$130	$610
Low Carbon Transportation (California Air Resources Board)	$30	$200	$325
Weatherization Upgrades/Renewable Energy (Department of Community Services and Development)		$75	$154
Energy Efficiency in Public Buildings (California Energy Commission)		$20	$20
Agricultural Energy and Operational Efficiency and Water Efficiency (California Department of Food and Agriculture)	$10	$25	$75
Water-Energy Efficiency (Department of Water Resources)	$30	$20	$70
Wetlands and Watershed Restoration (Department of Fish and Wildlife)		$25	$27
Sustainable Forests (California Department of Forestry and Fire Protection)		$42	$42
Waste Diversion (California Department of Resources Recycling and Recovery)		$25	$31
Total Program Funding	**$70**	**$862**	**$2,614**

*****In addition to the $850 million shown above, SB 862 states that $400 million shall be available to the High Speed Rail Authority beginning in FY 2015-16, as repayment of a loan to the General Fund. This money shall be repaid as necessary, based on the financial needs of the High Speed Rail project.

ARB is responsible for the fiscal management of the fund, with expenditures authorized by the Legislature and the Governor through legislation. Table 1-3 shows the proceeds deposited into the GGRF from the auctions (from the sale of State-owned allowances), including the auctions held jointly with the Canadian province of Québec.

Table 1-3: Proceeds from the Sale of State-Owned Allowances Deposited in the Greenhouse Gas Reduction Fund (as of December 31, 2015)	
November 2012 Cap-and-Trade auction 1	$55,760,000
February 2013 Cap-and-Trade auction 2	$83,923,548
May 2013 Cap-and-Trade auction 3	$117,580,484
August 2013 Cap-and-Trade auction 4	$138,494,503
November 2013 Cap-and-Trade auction 5	$136,799,446
February 2014 Cap-and-Trade auction 6	$130,706,470
May 2014 Cap-and-Trade auction 7	$71,140,023
August 2014 Cap-and-Trade auction 8	$98,741,583
November 2014 Cap-and-Trade joint auction 1 (Québec)	$135,983,387
February 2015 Cap-and-Trade joint auction 2 (Québec)	$629,516,452
May 2015 Cap-and-Trade joint auction 3 (Québec)	$626,534,995
August 2015 Cap-and-Trade joint auction 4 (Québec)	$645,330,534
November 2015 Cap-and-Trade joint auction 5 (Québec)	$656,779,307
State Auction Proceeds Total	**$3,527,290,731**

2. Recent Developments – July through December 2015

Cap-and-Trade Auction Proceeds related activities in the second half of 2015 included:

Electric Distribution Utility Auction Proceeds:

- Utility Auction Proceeds: For the auctions held through the end of December 2015, the IOUs have received a total of $2,423,754,541 from the sale of allocated allowances and publicly-owned utilities have received a total of $269,293,807 from the sale of allocated allowances.

- IOUs continued to provide a credit to ratepayers on utility bills as part of implementing the CPUC decision pursuant to SB 1018. This credit appears on utility bills twice per year, in April and October.

- In August 2015, ARB released a report summarizing how electrical distribution utilities are using the value of allowances allocated to them. For the investor-owned utilities, the report describes how allocated allowance value is expected to be used. For the publicly owned utilities and electrical co-operatives, the report describes how allowance value has been used. The report is accessible here: https://www.arb.ca.gov/cc/capandtrade/allowanceallocation/edu-v2013-allowance-value-report.pdf

State-Owned Allowance Auction Proceeds:

- To ensure project benefits and outcomes can be consistently reported to the Legislature and included in annual reports required by AB 1532, ARB continues to work with implementing agencies to develop program materials, consistent with statute, to make certain that projects reduce GHG emissions, maximize benefits to disadvantaged communities, and estimate GHG emission reductions from potential projects.

- ARB is responsible for providing the quantification methodologies to estimate GHG emission reductions from projects receiving monies from GGRF. ARB staff is developing the GHG emission reduction quantification methodologies to be used by grant applicants and State agencies to estimate proposed project GHG emission reductions. Completed quantification methodologies are posted on ARB's website at https://www.arb.ca.gov/auctionproceeds

- ARB, in consultation with the Department of Finance and administering agencies, completed development of the *Funding Guidelines for Agencies that Administer California Climate Investments* (Funding Guidelines) in September 2015. The Funding Guidelines are focused on accountability and transparency for projects funded by GGRF dollars; maximizing benefits to disadvantaged communities; and reporting procedures to document GHG reductions, co-benefits, and other project outcomes. These Funding Guidelines supersede the two interim guidance documents that ARB previously released, regarding Expenditure Records and Fiscal Procedures (August 2014), and Investments to Benefit Disadvantaged Communities (November 2014). Administering agencies are responsible for incorporating the Full Funding Guidelines into their programs. ARB held nine public workshops on the draft Funding Guidelines in 2015 and brought the draft Guidelines to its Board for consideration and approval in September 2015.

- As of December 31, 2015, the Administration has completed concurrence with the majority of FY 2014-15 and FY 2015-16 expenditure records required pursuant to SB 1018, and ARB continues to work with agencies on the remaining ones. The expenditure records provide an overview of each agency's use of auction proceeds and are posted at: https://www.arb.ca.gov/auctionproceeds

- The Cap-and-Trade Auction Proceeds Second Investment Plan, required by AB 1532, identifies GHG reduction opportunities and potential priorities for the next three years of auction proceeds funding. ARB, the Department of Finance, and other State agencies conducted an extensive public process to develop the second Investment Plan. This included:
  - Holding seven workshops in August 2015 on a draft concept paper,
  - Holding three additional workshops on the draft Second Investment Plan in Fall 2015,
  - Presenting the final second Investment Plan at the ARB Board Hearing in December 2015 as an informational item.

3. Upcoming Milestones – January through June 2016

- Department of Finance will submit the final second Investment Plan to the Legislature in January 2016, in conjunction with the Governor's proposed budget.

- ARB staff is developing the second *Annual Report to the Legislature on Investments of Cap-and-Trade Auction Proceeds*, with the Department of Finance, pursuant to AB 1532. The 2016 Annual Report will describe the status of the programs, including major implementation milestones. The annual report is due to the Legislature in March 2016. The previous annual report is available at: https://www.arb.ca.gov/auctionproceeds

- ARB will continue to review expenditure records for the remaining FY 2014-15 and FY 2015-16 programs.

- ARB will continue to develop quantification methodologies to estimate GHG emission reductions from projects receiving monies from the GGRF.

- ARB will continue to develop a project tracking system to be used to collect and share information on program implementation and outcomes. Staff is currently developing an interim web-based approach to achieve these objectives prior to full scale deployment of the project tracking system.

E. California Sustainable Freight Action Plan

1. Background

The trucks, locomotives, ships, harbor craft, aircraft, cargo handling equipment, and transport refrigeration units that carry and move freight in California are significant sources of air pollution. Freight transport equipment and associated facilities like ports, rail yards, airports, freeways, distribution centers, and border crossings contribute over six percent (and growing) of the GHG emissions in the State, as well as a significant portion of the black carbon emissions that also contribute to climate change. The diesel engines that power these freight sources are responsible for about half of the diesel soot that increases the health risk in nearby communities, and nearly half of all nitrogen oxide emissions that result in regional ozone and fine particulate matter pollution in California.

ARB has adopted a series of regulations to reduce the diesel pollution and health risk near freight facilities over the last decade. U.S. EPA and other federal agencies have promulgated national emission standards and supported international agreements for cleaner ships, ship fuels, and aircraft. In addition, the State's largest ports have developed their own plans to cut air pollution. The railroads have implemented voluntary emission reduction agreements to bring the cleanest locomotives to California. Businesses and government have made substantial investments in lower-emission technology and fuels. The combined impact on diesel particulate matter emissions is dramatic – an 80 percent reduction at the largest ports and a 40 to 70 percent risk reduction at California's highest risk rail yards since 2005.

Despite this progress, California will need to transform the freight transport system to further reduce the localized health risk around freight facilities, meet State and federal air quality standards, and achieve long-term climate goals. Without further action, the cancer risk to residents living near major freight hubs will remain elevated. In 2016, ARB will be submitting a State Implementation Plan (SIP)[11] for ozone to U.S. EPA, as required by the Clean Air Act. ARB's 2012 *Vision for Clean Air: A Framework for Air Quality and Climate Planning* showed that meeting ozone health-based standards and climate goals will require similar transformative emission reduction strategies. The success of the SIP will depend on a successful transition of the current California freight system to one with zero or near-zero emissions over the long-term.

In 2013, ARB launched the Sustainable Freight effort to develop a sustainable freight strategy for California. ARB staff conducted outreach with freight industry representatives; local, State and federal government agencies; and community and environmental advocates to discuss the need for transformation and to seek input on a collaborative process throughout 2014. ARB staff participated in over 180 individual meetings and conference calls with over 220 organizations representing local, State, national, and international interests to identify, prioritize, and discuss various concepts that will move California towards a sustainable freight transport system.

ARB staff released the Sustainable Freight Pathways to Zero and Near-Zero Discussion Document (Discussion Document) in 2015, which sets out ARB's vision of a clean freight system, together with the immediate and near-term steps that ARB will take to support use of zero and near-zero emissions technology. Caltrans and CEC are also undertaking complementary planning activities. Caltrans focused on infrastructure, to

[11] Federal clean air laws require areas with unhealthy levels of criteria air pollutants (e.g., ozone and inhalable particulate matter) to develop State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain national ambient air quality standards (NAAQS). The 1990 Amendments to the federal Clean Air Act set deadlines for attainment based on the severity of an area's air pollution problem.

support development of a Freight Mobility Plan and to meet new federal directives for freight planning. CEC updated the Integrated Energy Policy Report to provide policy recommendations regarding the conservation of resources; protecting the environment; ensuring reliable, secure, and diverse energy supplies; and enhancing the State's economy.

In 2014, ARB also began technology assessments to evaluate the current state and projected development over the next 5 to 10 years of mobile source technologies and fuels. These technology and fuels assessments will support State-level planning and regulatory efforts, including the Discussion Document, California Sustainable Freight Action Plan (Action Plan) development, SIP development, and ARB's mobile source control program.

On July 17, 2015 Governor Brown issued Executive Order B-32-15, which directs the secretaries of Transportation, Environmental Protection, and Natural Resources to lead other relevant State departments including ARB, Caltrans, CEC, and the Governor's Office of Business and Economic Development to improve freight efficiency and transition to zero emission technologies, while continuing to support California's economy.

The Action Plan will also identify State policies, programs, and investments to achieve these targets. The plan will be informed by existing State agency strategies, including the California Freight Mobility Plan, the Discussion Document, and CEC's Integrated Energy Policy Report, as well as broad stakeholder input.

Executive Order-B-32-15 also directs the State to initiate work on corridor-level freight pilot projects within the State's primary trade corridors that integrate advanced technologies, alternative fuels, freight fuel infrastructure, and local economic development opportunities.

2. Recent Developments – July through December 2015

A broad coalition of interests is needed to develop a California vision for a sustainable freight transport system, define the system changes (logistics, infrastructure, equipment) needed to implement the vision, secure support and public/private funding, and build/deploy the system. This approach offers the potential to help meet the State's air quality, climate, energy, and economic needs with a clean freight system that aligns with and supports a competitive logistics industry and associated jobs.

ARB activities in the second half of 2015 included:

- ARB staff released several Draft Technology and Fuels Assessment Overview documents that evaluate the current state and projected development of mobile source technologies and fuels.

- ARB incentive funding continues to replace older freight equipment and vehicles through Proposition 1B, the Air Quality Improvement Program, and the Carl Moyer Program, which will achieve further reductions of particulate matter under 2.5 micrometers in diameter ($PM_{2.5}$), reactive organic gases, and NO_X over the life of the grant contracts and/or lifetime of the upgraded vehicles, as part of the immediate measures ARB committed to undertake in the Discussion Document.

- ARB staff continues to develop regulatory near-term measures, as identified in the Discussion Document, to promote cleaner combustion technologies including the introduction of near-zero emission technology, and to accelerate use of zero emission technologies.
- On July 28, 2015, the multi-agency State partners kicked off the public process to develop the Action Plan starting with a California Freight Advisory Committee (CFAC) meeting, where the public was introduced to the effort by representatives from participating agencies.

- On October 1, 2015, a second kick-off event was held via webinar that included representatives from seaports, shipping, carriers, the fuel industry, utility companies, air districts, consultants, federal, State, regional, and local government transportation agencies, private business and business organizations, and legislative staff. During this webinar, participants were able to submit comments and questions, which were responded to in real-time by a multi-agency panel.

- On October 20, 2015, at a CFAC meeting in Los Angeles, the State agencies shared draft emission reduction targets, discussed a process for evaluating economic impacts of actions that the agencies will be identifying to support those targets, and provided additional information regarding sharing pilot project ideas with the State agencies.

- In October 2015, Caltrans, ARB, CEC, and the Governor's Office of Business and Economic Development requested that interested persons submit ideas for pilot projects. Fifty-four pilot project ideas were received and are being evaluated by the interagency partners.

3. Upcoming Milestones – January through June 2016

- Pilot project concepts will be publicly workshopped on January 26th, 28th, February 1st, and February 5th in various locations throughout California and at the CFAC meeting on February 10, 2016.

- In January 2016, ARB will present an informational update to the Board on the progress of the immediate and near-term measures outlined in the Discussion Document and the activities underway as the result of Governor Brown's Executive Order B-32-15 to develop the Action Plan.

- ARB incentive-funded projects will continue to replace older freight equipment and vehicles through Proposition 1B, the Air Quality Improvement and the Carl Moyer programs, which will achieve further reductions of $PM_{2.5}$, reactive organic gases, and NO_X over the life of the grant contracts and/or lifetime of the upgraded vehicles.

- ARB staff will continue to develop regulatory near-term measures, as identified in the Discussion Document, to promote cleaner combustion technologies, including the introduction of near-zero emission technology, and to accelerate use of zero emission technologies. To make additional reductions on the freight transport system, ARB will explore several different avenues including: incentives, additional fleet rules, quantifying efficiency gains, and a facility-based cap approach. To help inform this effort, staff is currently collecting data from major freight hubs and facilities within the State.

- ARB staff will continue to release Draft Technology and Fuels Assessment Overview documents that evaluate the current state and projected development of mobile source technologies and fuels.

- The multi-agency State partners will continue to host a series of public meetings and regional workshops throughout northern, central, and southern California to solicit public input on the development of the Action Plan beyond the transportation, environmental, and industry interests that are already engaging in the State's freight transport efforts.

- The multi-agency State partners will continue to convene and participate in additional topic-specific meetings and conversations with interested stakeholder groups (e.g., local and regional government agencies, utilities, environmental and health groups), as needed, while the Action Plan is being developed.

- The multi-agency State partners anticipate releasing the draft Action Plan in spring of 2016 for public review and comment followed by submittal of the final Action Plan by the secretaries of Transportation, Environmental Protection, and Natural Resources, to the Governor in July 2016.

III. GREENHOUSE GAS EMISSIONS AND REDUCTIONS

ARB periodically updates estimates of GHG emissions in California, which change over time as the science advances, national and international accounting methodologies are updated, growth forecasts are revised, and California makes progress in reducing emissions. ARB and international climate change organizations use the scientifically established global warming potential (GWP) values developed by the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report, which includes updated GWP values for GHGs.[12] ARB expresses the emissions of other non-carbon dioxide GHGs in terms of carbon dioxide equivalent (CO_2e), which factor in how long the GHG remains in the atmosphere and how strongly it absorbs energy relative to carbon dioxide.

For the 2014 First Scoping Plan Update, ARB adjusted the 2020 statewide GHG emissions limit based on the updated GWP values from the IPCC Fourth Assessment Report and the level of 1990 GHG emissions. As a result, the 2020 emissions limit is now 431 MMT of CO_2e. ARB currently estimates that GHG emissions in 2020 would be 509 MMT of CO_2e in a "business as usual" (BAU) scenario without the State's actions to reduce GHGs. Therefore, the new reduction required, based on the First Scoping Plan Update, is 78 MMT CO_2e by 2020. In the previous version of the 2020 BAU scenario in 2010 using GWP values from the IPCC Second Assessment Report, the 2020 BAU was 507 MMT CO_2e, and the 2020 emissions limit was 427 MMT CO_2e, requiring a reduction of 80 MMT CO_2e.

ARB maintains and updates the statewide GHG emission inventory to track California's progress toward the 2020 statewide emissions limit. When the statewide emissions limit was first developed in 2008, the target was developed using statewide, top-down data. As AB 32 programs are being implemented and data are being collected directly from those programs, ARB will be evaluating how data directly collected from AB 32 programs can inform the GHG inventory process in tracking progress toward the 2020 statewide emissions limit. To estimate if California is on track to achieve the AB 32 emission reduction goal, ARB projects 2020 emissions under a BAU scenario and subtracts the estimated reductions from adopted and anticipated measures expected by 2020 to demonstrate that the Program is on course to achieve the 2020 emissions limit (see Table 1-4).

To meet the 2020 target, the climate program must reduce 78 MMT of CO_2e emissions by 2020. Table 1-4 shows the expected GHG reductions from sector-based measures.

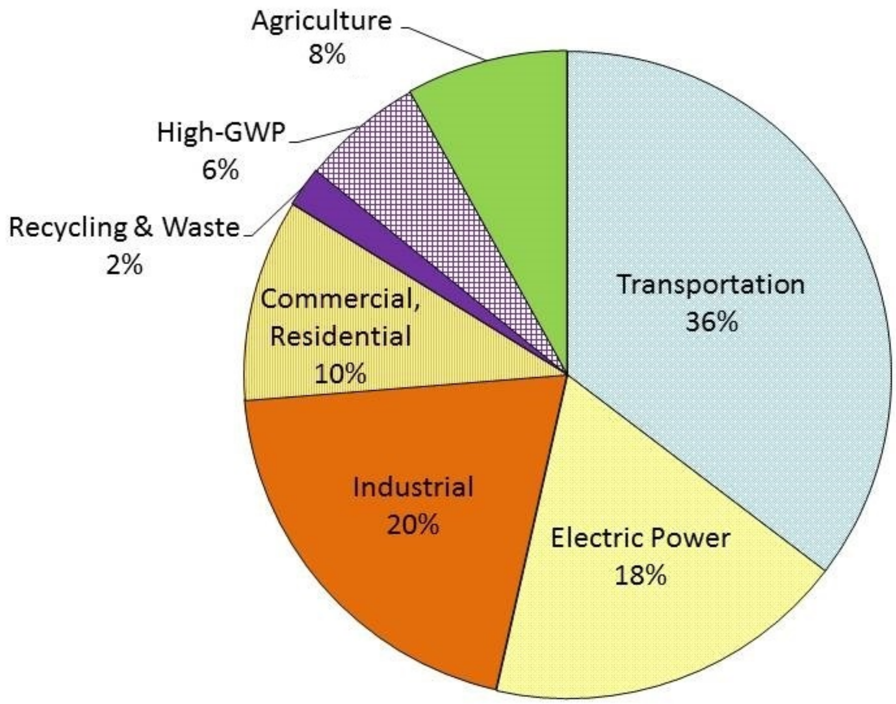
[12] The initial Scoping Plan relied on the IPCC's 1996 Second Assessment Report to assign the GWPs of greenhouse gases. Recently, in accordance the United Nations Framework Convention on Climate Change, international climate agencies have agreed to begin using the GWP values in the IPCC's Fourth Assessment Report that was released in 2007. These more recent GWP values incorporate the latest available science and are therefore regarded as more accurate than the prior values.

Table 1-4: Meeting the 2020 Emissions Target	
Category	**2020 ($MMTCO_2e$)****
AB 32 Baseline 2020 Forecast Emissions (2020 BAU)	509
Expected Reductions from Sector-Based Measures	
Energy	25
Transportation	23
High-GWP	5
Waste	2
Cap-and-Trade Reductions	23*
2020 Limit	431

*Cap-and-Trade emission reductions depend on the emission forecast.
**Based on IPCC Fourth Assessment Report GWP values.

Figure 1 shows how the 2020 emissions are likely to be spread across the sectors after compliance with the AB 32 2020 target. The 2030 Target Scoping Plan Update, currently under development, will focus on key areas with potential for further emission reductions after 2020, to reach a 2030 target. These sectors include transportation, industry, energy, energy efficiency and green buildings, waste, water, natural and working lands, and agriculture.

Figure 1
2020 Greenhouse Gas Emissions By Sector
With Adopted Regulations and Programs



431 MMTCO2e

ARB regulations and programs providing the greatest GHG reductions align with where ARB is dedicating resources (funded primarily by the AB 32 Cost of Implementation Fee).

SECTION 2:

ANNUAL AB 32 FISCAL REPORT

(Fiscal Year 2014-15: July 2014-June 2015)

This report is required annually by the Supplemental Report of the 2012 – 13 Budget[13] to quantify the major revenues and expenses for ARB to implement the AB 32 program for the prior fiscal year. This report focuses on Fiscal Year (FY) 2014 – 15. The report format follows the Budget language, from funding received (Cost of Implementation Fee and Cap-and-Trade auction proceeds), followed by ARB expenses for the AB 32 program as a whole and breakdowns by specified major program areas, the total funds from Cap-and-Trade allowance auctions, and concludes with the activities of the Emissions Market Assessment Committee.

I. FY 2014-15 FUNDS RECEIVED AND EXPENDED

This element of the report covers the FY 2014 – 15 funds received related to AB 32 implementation, as well as the FY 2014 – 15 funds expended by ARB to support activities that provide climate benefits.

Structure and Funding for Regulatory Activities. The resources estimated in this section of the report are used to support all activities that provide a climate benefit, whether as the primary objective, or as a co-benefit. In each year, ARB's resources to support the climate program equal or exceed the amount budgeted exclusively for AB 32 activities that are funded by the AB 32 Cost of Implementation Fee. ARB relies on other funding sources; the specific source is related to the activity for two reasons.

First, ARB has several measures and program areas that were originally designed to achieve other air quality goals and rely on different funding sources, but nonetheless provide a climate co-benefit by simultaneously reducing GHGs. Although the GHG

[13] Each year, beginning January 10, 2013, ARB shall provide the Legislature an AB 32 fiscal report. This annual report is to be retrospective and is intended to quantify the major revenue and ARB expenses for the AB 32 program for the prior fiscal year. The scope of the annual fiscal report should include: the AB 32 cost of implementation fee revenue, loans repaid, and overall AB 32 program expenses (staff, operations, and contracts) for the prior fiscal year; the total cap-and-trade auction funds; a summary of ARB AB 32 expenditures; the balance for the prior fiscal year; and allowance auction prices in order to assess trends. The annual fiscal report should include an update on activities and findings of the Market Surveillance Committee, as well as track and detail all expenses and revenues, including the following categories: all AB 32 costs, all cap-and-trade costs, low-carbon fuel standards, Renewable Portfolio Standards, Green Building strategy, and landfill methane capture.

emission reductions associated with these other measures are counted towards achieving the AB 32 target and considered as part of the climate program, those activities may not necessarily be solely funded by the AB 32 Cost of Implementation Fee. For example, the ships-at-berth rule was initiated to reduce the community health risk from ship pollution, but the rule also provides substantial GHG co-benefits associated with using shore-based electrical power rather than burning fuel in onboard engines when the ships are in port.

Second, ARB's regulatory program has grown and evolved to address the agency's responsibilities under State and federal law to improve air quality at the local, regional, and global levels. ARB adopts, implements, and enforces regulations focused on meeting several different objectives:

- Reducing criteria pollutants (like ozone and fine particulate matter) to meet health-based air quality standards in each region;
- Reducing the localized health risk from air toxics (like benzene, hexavalent chromium or diesel particulate matter); and
- Reducing the greenhouses gases and short-lived climate pollutants that contribute to global climate change.

Although the statutory foundation for each of these regulatory programs is distinct, to the extent feasible, ARB looks to develop regulations and comprehensive programs that meet two or more of these objectives simultaneously. This approach enables ARB to use resources most efficiently and benefits the industry by providing a public process that results in a consolidated set of requirements.

A. AB 32 Cost of Implementation Fee for FY 2014-15

Table 2-1 displays the Cost of Implementation Fee appropriations from the State Budget for FY 2014-2015 for State agencies authorized to use the AB 32 Cost of Implementation Fee revenue.

Table 2-1: AB 32 Cost of Implementation Fee Appropriations (FY 2014-15)		
Department	**Positions**	**Funding**
Secretary for Environmental Protection	4	$611,000
Secretary of the Natural Resources Agency	2	$533,000
Department of Housing and Community Development	6	$835,000
Department of Resources Recycling and Recovery	6	$566,000
Department of Forestry and Fire Protection	1	$559,000
Department of Water Resources	3	$347,000
Air Resources Board	168	$39,725,000
State Water Resources Control Board	2	$570,000
Department of Public Health	0	$357,000
State Controller	0	$3,000
Department of Food and Agriculture	1	$143,000
Total Appropriations and Adjustments	**193**	**$44,245,000**

Source: FY 2014-15 Cost of Implementation, Air Pollution Control Fund Condition Statement at http://www.ebudget.ca.gov/2015-16/pdf/GovernorsBudget/3890/3900FCS.pdf. All dollars rounded to the nearest thousand.

The funds to support the AB 32 programs at multiple agencies establish the total required revenue for the AB 32 Cost of Implementation Fee for FY 2014-15. Discrepancies between agency positions and funding amount are due to differences in contracted dollars and salary adjustments. Table 2-2 shows the required revenue, along with updated information on the revenue actually collected for FY 2014-15. Adjustments include over-collections or under-collections from the previous fiscal year, liquidated invoices (those under 50 dollars), refunds, and employee compensation adjustments made after total required revenue is determined. The value of -$490,000 listed in Table 2-2 below, under “Adjustments from Previous FY Collections,” represents the over-collection of the total fees originally invoiced in the previous fiscal year. The over-collection resulted from adjustment to some entities’ fee-covered emissions after the fee invoices were generated. The adjustment to reported covered emissions occurred for various reasons, including, but not limited to, late discovery of misreporting of emissions or billing errors. ARB corrects for these adjustments in subsequent year billings.

Table 2-2: Total AB 32 Cost of Implementation Fee Expenses and Revenue (FY 2014-15)	
Total Department Expenditures	$44,245,000
Adjustments from Previous FY Collections	-$490,000
Total Required Revenue*	**$43,755,000**
Fee Revenue Collected for FY 2014-15*	**$42,925,000**

*The difference between the Fee Revenue Collected and the Total Required Revenue is attributed to the actual personnel costs being less than the budgeted appropriations for personnel costs. This difference is reflected in the Air Pollution Control Fund Condition Statement referenced below and is used to provide a reasonable reserve for economic uncertainties.
Source: FY 2014-15 Cost of Implementation, Air Pollution Control Fund Condition Statement at http://www.ebudget.ca.gov/2015-16/pdf/GovernorsBudget/3890/3900FCS.pdf. All dollars rounded to the nearest thousand.

B. Overall ARB FY 2014-15 Resources to Implement AB 32

The FY 2014-15 State Budget approved ARB to use up to $39,725,000 from the AB 32 Cost of Implementation Fee to support ARB climate change programs. ARB also relied on $11,542,000 in funding from other sources for activities that provide a climate co-benefit (e.g., development of the Advanced Clean Cars Regulation that reduces air toxics, criteria air pollutants, greenhouse gases, and short-lived climate pollutants). As shown in Table 2-3, ARB's actual FY 2014-15 resources to support climate change activities and implement AB 32 totaled $51,267,000.

Table 2-3: Overall ARB FY 2014-15 Expenditures to Support AB 32 (Actual)

Category	Funding
Personnel and operations expenses (salary, benefits, overhead, equipment, travel, training, etc.)	$46,837,000
Contract expenditures	$4,430,000
Total	**$51,267,000**

Source: Personnel and operations expenses are obtained from manual monthly tracking reports submitted by ARB staff. Expenses include administrative and legal support combined with a loaded cost per position to cover staffing and overhead costs. All dollars rounded to the nearest thousand.

C. <u>Program-Specific ARB FY 2014-15 Resources to Implement AB 32</u>

1. Data Sources and Methodology

Historically, ARB has tracked AB 32 programs and activities to implement AB 32 in totality, not at the level of individual regulations. To comply with all mandates (State laws, regulations, and policies on fiscal programs), ARB uses the CALSTARS system, which is the State's accounting system.

In response to requests by the Legislature to see more detailed information regarding the costs to implement AB 32, ARB has committed to manually track and report on AB 32 expenditures for personnel and operations, plus contracts, for the major elements of the climate program. ARB began collecting information on hours worked in specific AB 32 program areas from all affected employees beginning with the October 2013 pay period. ARB is using these data for current and future reports to the Legislature.

For contract expenses, ARB relied on its records of actual expenditures that occurred in FY 2014-15 to support AB 32-related contracts. Some funds for these contracts may have been encumbered and/or liquidated in FY 2012-13, 2013-14, or 2014-15, but had not been expended yet.

2. *Retrospective Resources by Program Area*

Table 2-4 shows ARB's estimate of the resources used to support programs in FY 2014-15 with climate benefits at ARB.

Table 2-4: ARB Expenditure of Funds in FY 2014-15 for Specific Program Activities that Support AB 32			
AB 32 Program Area	**Personnel & Operations Expenses**	**Contract Dollars Expended**	**Total by Program Area**
Cap-and-Trade	$7,851,000	$2,001,000	$9,852,000
Low Carbon Fuel Standard	$5,182,000	$123,000	$5,305,000
Mobile/Transportation	$10,591,000	$662,000	$11,253,000
Energy	$962,000	$142,000	$1,104,000
Inventory/Monitoring/ Research/Cost of Implementation Fee	$6,800,000	$303,000	$7,103,000
Scoping Plan	$504,000	$5,000	$509,000
Other AB 32 Support Activities	$14,946,000	$1,194,000	$16,140,000
Total	**$46,837,000**	**$4,430,000**	**$51,267,000**

Source: Personnel and operations expenses are obtained from manual monthly tracking reports submitted by ARB staff. Expenses include administrative and legal support combined with a loaded cost per position to cover staffing and overhead costs. All dollars rounded to the nearest thousand.

II. CAP-AND-TRADE ALLOWANCE AUCTION

ARB and its contractors have conducted 13 auctions under the Cap-and-Trade Regulation through 2015. There were two types of allowances offered — current vintage allowances, including current year allowances from the State and those consigned to auction by the electric distribution utilities, as well as future vintage allowances offered by the State. The joint auctions with Québec also included current and future vintage allowances from Québec.

As of this report, the auctions have generated $3,527,290,731 in proceeds to the State and $2,693,048,348 to the utilities. The sale of allowances consigned by utilities was returned to those utilities to be used as directed by the California Public Utilities Commission[14] or the public utilities' governing boards. The $3,527,290,731 raised by the sale of State-owned allowances was deposited into the State's Greenhouse Gas Reduction Fund, to be allocated in accordance with the State Budget. The auction

[14] In Decision D.12-12-033 (Decision Adopting Cap-and-Trade Greenhouse Gas Allowance Revenue Allocation Methodology for the Investor-Owned Electric Utilities), the California Public Utilities Commission directed the utilities to distribute the auction proceeds to ratepayers.

results are summarized below in Table 2-5, and are available at: https://www.arb.ca.gov/auction

Table 2-5: Greenhouse Gas Reduction Fund (as of December 31, 2015)*	
November 2012 Cap-and-Trade auction 1	$55,760,000
February 2013 Cap-and-Trade auction 2	$83,923,548
May 2013 Cap-and-Trade auction 3	$117,580,484
August 2013 Cap-and-Trade auction 4	$138,494,503
November 2013 Cap-and-Trade auction 5	$136,799,446
February 2014 Cap-and-Trade auction 6	$130,706,470
May 2014 Cap-and-Trade auction 7	$71,140,023
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May 2015 Cap-and-Trade joint auction #3	$626,534,995
August 2015 Cap-and-Trade joint auction #4	$645,330,534
November 2015 Cap-and-Trade joint auction #5	$656,779,307
Auction Proceeds Total	**$3,527,290,731**

* Prices are shown in round numbers.

III. EMISSIONS MARKET ASSESSMENT COMMITTEE

ARB contracted with national experts to form the Emissions Market Assessment Committee (EMAC), to advise ARB regulatory staff on issues related to the performance and integrity of the emissions market. The contract ran through December 2013. The EMAC concluded its work and finalized an issue paper entitled, "Information Release on Allowance Holdings in the Greenhouse Gas Emissions Cap-and-Trade Market," which may be accessed at: https://www.arb.ca.gov/cc/capandtrade/emissionsmarketassessment/emissionsmarketassessment.htm

SECTION 3:

ANNUAL REPORTS ON AB 32 RESOURCES

(July 2014-June 2015 and July 2015-June 2016)

Item 3900-001-0001 Air Resources Board Supplemental Report of the 2012-13 Budget[15] requires quantification and detailing of ARB's resources to implement AB 32 – prospectively and retrospectively. This prospective report covers the current Fiscal Year 2015-16. This retrospective report focuses on Fiscal Year 2014-15 and therefore includes the same material as previously presented in Section 2: Annual AB 32 Fiscal Report. The format for each report follows the elements of the Budget directive, focusing on quantifying the resources to support five key activities: Cap-and-Trade, Low Carbon Fuel Standard, AB 32 Cost of Implementation Fee, AB 32 Scoping Plan, and the Greenhouse Gas Reduction Fund. The reports also identify resources to support other AB 32-related activities.

Structure and Funding for Regulatory Activities. The resources estimated in this report are those used to support activities that provide a climate benefit, whether as the primary objective, or as a co-benefit. In each year, ARB's resources to support the climate program equal or exceed the amount budgeted exclusively for AB 32 activities that are funded by the AB 32 Cost of Implementation Fee. ARB relies on other funding sources; the specific source is related to the activity. There are two reasons.

First, ARB has several measures and program areas that were originally designed to achieve other air quality goals and rely on different funding sources, but nonetheless provide a climate co-benefit by simultaneously reducing GHGs. Although the GHG emission reductions associated with these other measures are counted towards achieving the AB 32 target and are considered part of the climate program, those activities may not necessarily be fully funded by the AB 32 Cost of Implementation Fee. For example, the ships-at-berth rule was initiated to reduce the community health risk from ship pollution, but the rule also provides substantial GHG co-benefits associated

[15] In addition, ARB shall provide two resource reports each year to the Legislature that quantify the ARB AB 32 staffing and operations expenses, as well as ARB contracts, by major AB 32 program area. First, ARB shall provide a prospective resource report with anticipated expenses each year by January 10. Second, ARB shall provide a retrospective resource report each year on or before January 10. The scope of the resources reports is to include the ARB resources (staffing, operations, and contracts) that were used to support major AB 32 program areas (cap-and-trade, low carbon fuel standard, cost of implementation fee, and the update to the AB 32 Scoping Plan). In addition, ARB is to provide an estimate of the combined resources for the other climate change-related activities (implementation of adopted regulations and coordination with other agencies).

with using shore-based electrical power rather than burning fuel in onboard engines when the ships are in port.

Second, ARB's regulatory program has grown and evolved to address the agency's responsibilities under State and federal law to improve air quality at the local, regional, and global levels. ARB adopts, implements, and enforces regulations focused on meeting several different objectives:

- Reducing criteria pollutants (like ozone and fine particulate matter) to meet health-based air quality standards in each region;
- Reducing the localized health risk from air toxics (like benzene, hexavalent chromium or diesel particulate matter); and
- Reducing the greenhouses gases and short-lived climate pollutants that contribute to global climate change.

Although the statutory foundation for each of these regulatory programs is distinct, to the extent feasible, ARB looks to develop regulations and comprehensive programs that meet two or more of these objectives simultaneously. This approach enables ARB to use its resources most efficiently and benefits the industry by providing a public process that results in a consolidated set of requirements.

I. AB 32 PROSPECTIVE RESOURCE REPORT FOR FY 2015-16

The FY 2015-16 State Budget approved ARB to use up to $44,241,000 from the AB 32 Cost of Implementation Fee to support AB 32 climate change programs. ARB also expects to rely on other sources of funding for activities that provide a climate co-benefit.

A. AB 32 Cost of Implementation Fee for FY 2015-16

Table 3-1 displays the Cost of Implementation fee appropriations for FY 2015-16, which shows the budgetary authority for agencies that use the AB 32 Cost of Implementation Fee revenue.

Table 3-1: AB 32 Cost of Implementation Fee Appropriations (FY 2015-16)

Department	Positions	Funding
Secretary for Environmental Protection	4	$658,000
Secretary of the Natural Resources Agency	2	$493,000
Department of Housing and Community Development	6	$315,000
Department of Resources Recycling and Recovery	6	$564,000
Department of Forestry and Fire Protection	1	$354,000
Department of Water Resources	3	$348,000
Air Resources Board	168	$44,241,000
State Water Resources Control Board	2	$584,000
Department of Public Health	0	$357,000
Department of Food and Agriculture	1	$142,000
Financial Information System for California	0	$76,000
Total Expenditures and Adjustments	**193**	**$48,132,000**

Source: ARB AB 32 Implementation Expenses at https://www.arb.ca.gov/cc/adminfee/revenue.htm All dollars rounded to the nearest thousand.

The funds to support the AB 32 programs at multiple agencies, and adjustments from prior fee collections, establish the total required revenue for the AB 32 Cost of Implementation Fee for FY 2015-16. Table 3-2 shows the required revenue, along with updated information on the revenue actually collected for FY 2015-16. Adjustments include over-collections or under-collections from the previous fiscal year, liquidated invoices (those under 50 dollars), refunds, and employee compensation adjustments made after total required revenue is determined. The AB 32 Cost of Implementation Fee Program has collected all billable fees from fee payers. The value of $3,379,000 listed in Table 3-2 below, under “Adjustments from Previous FY Collections,” represents the under-collection of the total fees originally invoiced in the previous fiscal year. The under-collection resulted from adjustment to some entities’ fee-covered emissions after the fee invoices were generated. The adjustment to reported covered emissions occurred for various reasons, including but not limited to, late discovery of misreporting of emissions or billing errors.

Table 3-2: Total AB 32 Cost of Implementation Fee Appropriations and Revenue (FY 2015-16)	
Total Department Appropriations	$48,132,000
Adjustments from Previous FY Collections	$3,379,000
Total Required Revenue*	**$51,511,000**
Fee Revenue Collected for FY 2015-16*	**$52,613,000**

*The difference between the Fee Revenue Collected and the Total Required Revenue is attributed to the actual personnel costs exceeding the budgeted appropriations for personnel costs. This difference is reflected in the Air Pollution Control Fund Condition Statement referenced below and was expended from the "reasonable reserve for economic uncertainty."
Source: FY 2015-16 Cost of Implementation, Air Pollution Control Fund Condition Statement at http://www.ebudget.ca.gov/2015-16/pdf/GovernorsBudget/3890/3900FCS.pdf All dollars rounded to the nearest thousand.

Table 3-3 displays the funds appropriated through the FY 2015-16 State Budget from the Greenhouse Gas Reduction Fund, established to receive the proceeds from the sale of State-owned allowances under the Cap-and-Trade Program. In March 2015, ARB and the Department of Finance began reporting Greenhouse Gas Reduction Fund expenditures to the Legislature, per AB 1532, with the progress of programs funded by auction proceeds.

Table 3-3: Appropriations for Greenhouse Gas Reduction Fund Programs (as of December 31, 2015)		
Program and State Agency	**FY2014-15** (Millions)	**FY2015-16** (Millions)*
High Speed Rail (California High Speed Rail Authority)	$250	$850**
Transit and Intercity Rail Capital Program (California Department of Transportation/California Transportation Commission)	$25	$265
Low Carbon Transit Operations Program (California Department of Transportation to local agencies)	$25	$145
Affordable Housing and Sustainable Communities (Strategic Growth Council)	$130	$610
Low Carbon Transportation (California Air Resources Board)	$200	$325
Weatherization Upgrades/Renewable Energy (Department of Community Services and Development)	$75	$154
Energy Efficiency in Public Buildings (California Energy Commission)	$20	$20
Agricultural Energy and Operational Efficiency and Water Efficiency (California Department of Food and Agriculture)	$25	$75
Water-Energy Efficiency (Department of Water Resources)	$20	$70
Wetlands and Watershed Restoration (Department of Fish and Wildlife)	$25	$27
Sustainable Forests (California Department of Forestry and Fire Protection)	$42	$42
Waste Diversion (California Department of Resources Recycling and Recovery)	$25	$31
Total Program Funding	**$862**	**$2,614**

**Approximate appropriations based on 2015 May Revise budget proposal. Actual dollar amounts will be determined by a percentage of quarterly auction proceeds.*
***In addition to the $850 million shown above, SB 862 states that $400 million shall be available to the High Speed Rail Authority beginning in FY 2015-16, as repayment of a loan to the General Fund. This money shall be repaid as necessary, based on the financial needs of the High Speed Rail project.*
Source: FY 2015-16 Greenhouse Gas Reduction Fund Condition Statement at http://www.ebudget.ca.gov/2015-16/pdf/GovernorsBudget/3890/3900FCS.pdf, and from the GGRF Programs Summary at: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/summaryproceedsappropriations.pdf All dollars rounded to the nearest thousand.

B. <u>Overall ARB FY 2015-16 Resources to Implement AB 32</u>

Table 3-4 shows the estimated total ARB resources needed to support AB 32 that will be funded by the Cost of Implementation Fee, the Greenhouse Gas Reduction Fund, and additional sources in FY 2015-16. As noted above, ARB also expects to rely on other sources of funding for activities that provide a climate co-benefit.

Table 3-4: Projected Overall ARB FY 2015-16 Resources to Implement AB 32	
Category	**Funding**
Personnel and operations expenses (salary, benefits, overhead, equipment, travel, training, etc.)	$49,746,000
Contracts budgeted	$4,785,000
Total	**$54,531,000**

Source: ARB program management identification of specific personnel and total positions needed to meet FY 2015-16 objectives for each specific program area, including administration and legal support, combined with a loaded cost per position to cover staffing and overhead costs. Costs are estimated from monthly tracking reports for the previous fiscal year submitted by ARB staff. All dollars rounded to the nearest thousand.

C. Program-Specific ARB FY 2015-16 Resources to Implement AB 32

Table 3-5 provides a breakdown by major program area of FY 2015-16 resource estimates for personnel and operations, plus contract dollars allocated, for all ARB activities that provide a climate benefit and support AB 32. The contract dollar amounts allocated show the FY 2015-16 funds that may be encumbered via contracts. Section 1 of this report, the Program Update, provides a discussion of contracts for major program areas.

Table 3-5: Program-Specific ARB FY 2015-16 Resources to Support AB 32

AB 32 Program Area	Estimated Personnel and Operations Expenses	Contract Dollars Allocated	Estimated Total by Program Area
Cap-and-Trade	$8,339,000	$2,511,000	$10,850,000
Low Carbon Fuel Standard	$5,503,000	$615,000	$6,118,000
Mobile/Transportation	$11,250,000	$75,000	$11,325,000
Inventory/Monitoring/Research/Fee Regulation	$7,222,000	$200,000	$7,422,000
Scoping Plan	$3,610,000	$705,000	$4,315,000
Energy	$1,021,000	$100,000	$1,121,000
Other AB 32 Support Activities	$12,801,000	$579,000	$13,380,000
Total	**$49,746,000**	**$4,785,000**	**$54,531,000**

Source: ARB program management identification of specific personnel and total positions needed to meet FY 2015-16 objectives for each specific program area, including administration and legal support, combined with a loaded cost per position to cover staffing and overhead costs. Contract funding refers to FY 2015-16 monies that have been or will be encumbered in this fiscal year, but may be expended through June 2018. Costs are estimated from monthly tracking reports for the previous fiscal year submitted by ARB staff, and anticipated workload for the development of the 2030 Target Scoping Plan Update. All dollars rounded to the nearest thousand.

II. AB 32 RETROSPECTIVE RESOURCE REPORT FOR FY 2014-15

Note: the text in this part duplicates the text in Section 2: Annual AB 32 Fiscal Report I-A, through I-C.

A. AB 32 Cost of Implementation Fee for FY 2014-15

Table 3-6 displays the Cost of Implementation Fee appropriations from the State Budget for FY 2014-15, which shows the budgetary authority for State agencies that use the AB 32 Cost of Implementation Fee revenue.

Table 3-6: AB 32 Cost of Implementation Fee Appropriations (FY 2014-15)		
Department	**Positions**	**Funding**
Secretary for Environmental Protection	4	$611,000
Secretary of the Natural Resources Agency	2	$533,000
Department of Housing and Community Development	6	$835,000
Department of Resources Recycling and Recovery	6	$566,000
Department of Forestry and Fire Protection	1	$559,000
Department of Water Resources	3	$347,000
Air Resources Board	168	$39,725,000
State Water Resources Control Board	2	$570,000
Department of Public Health	0	$357,000
State Controller	0	$3,000
Department of Food and Agriculture	1	$143,000
Total Appropriations and Adjustments	**193**	**$44,245,000**

Source: FY 2014-15 Cost of Implementation, Air Pollution Control Fund Condition Statement at http://www.ebudget.ca.gov/2015-16/pdf/GovernorsBudget/3890/3900FCS.pdf All dollars rounded to the nearest thousand.

The funds to support the AB 32 programs at multiple agencies establish the total required revenue for the AB 32 Cost of Implementation Fee for FY 2014-15. Discrepancies between agency positions and funding amount are due to differences in contracted dollars and salary adjustments. Table 3-7 shows the required revenue, along with updated information on the revenue actually collected for FY 2014-15. Adjustments include over-collections or under-collections from the previous fiscal year, liquidated invoices (those under 50 dollars), refunds and employee compensation adjustments made after total required revenue is determined. The value of -$490,000 listed in Table 3-7 below, under “Adjustments from Previous FY Collections,” represents the over-collection of the total fees originally invoiced in the previous fiscal year. The over-collection resulted from adjustment to some entities’ fee-covered emissions after the fee invoices were generated. The adjustment to reported covered emissions occurred for various reasons, including, but not limited to, late discovery of misreporting of emissions or billing errors. ARB corrects for these adjustments in subsequent year billings.

Table 3-7: Total AB 32 Cost of Implementation Fee Expenses and Revenue (FY 2014-15)	
Total Department Appropriations	$44,245,000
Adjustments from Previous FY Collections	-$490,000
Total Required Revenue	**$43,755,000**
Fee Revenue Collected for FY 2014-15*	**$42,925,000**

*The difference between the Fee Revenue Collected and the Total Required Revenue is attributed to the actual personnel costs being less than the budgeted appropriations for personnel costs. This difference is reflected in the Air Pollution Control Fund Condition Statement referenced below and is used to provide a reasonable reserve for economic uncertainties.
Source: FY 2014-15 Cost of Implementation, Air Pollution Control Fund Condition Statement at http://www.ebudget.ca.gov/2015-16/pdf/GovernorsBudget/3890/3900FCS.pdf All dollars rounded to the nearest thousand.

B. Overall ARB FY 2014-15 Resources to Implement AB 32

The FY 2014-15 State Budget approved ARB to use up to $39,725,000 from the AB 32 Cost of Implementation Fee to support ARB climate change programs. ARB also relied on $11,542,000 in funding from other sources for activities that provide a climate co-benefit (e.g., development of the Advanced Clean Cars Regulation that reduces air toxics, criteria air pollutants, greenhouse gases, and short-lived climate pollutants). As shown in Table 3-8, ARB's actual FY 2014-15 resources to support climate change activities and implement AB 32 totaled $51,267,000.

Table 3-8: Overall ARB FY 2014-15 Expenditures to Support AB 32 (Actual)

Category	Funding
Personnel and operations expenses (salary, benefits, overhead, equipment, travel, training, etc.)	$46,837,000
Contract expenditures	$4,430,000
Total	**$51,267,000**

Source: Personnel and operations expenses are obtained from manual monthly tracking reports, submitted by ARB staff. Expenses include administrative and legal support combined with a loaded cost per position to cover staffing and overhead costs. All dollars rounded to the nearest thousand.

C. Program-Specific ARB FY 2014-15 Resources to Implement AB 32

1. Data Sources and Methodology

Historically, ARB has tracked AB 32 programs and activities to implement AB 32 in totality, not at the level of individual regulations. To comply with all mandates (State laws, regulations, and policies on fiscal programs), ARB uses the CALSTARS system, which is the State's accounting system.

In response to requests by the Legislature to see more detailed information regarding the costs to implement AB 32, ARB committed to manually track and report on future AB 32 expenditures for personnel and operations, plus contracts, for the major elements of the climate program. ARB began collecting information on hours worked in specific AB 32 program areas from all affected employees beginning with the October 2013 pay period. ARB is using these data for current and future reports to the Legislature.

For contract expenses, ARB relied on its records of actual expenditures that occurred in FY 2014-15 to support AB 32-related contracts. Some funds for these contracts may have been encumbered and/or liquidated in FY 2012-13, FY 2013-14, or 2014-15, but had not been expended yet.

2. Retrospective Resources by Program Area

Table 3-9 shows ARB's estimate of the resources used to support programs in FY 2014-15 with climate benefits at ARB.

Table 3-9: ARB Expenditure of Funds in FY 2014-15 for Specific Program Activities that Support AB 32

AB 32 Program Area	Personnel & Operations Expenses	Contract Dollars Expended	Total by Program Area
Cap-and-Trade	$7,851,000	$2,001,000	$9,852,000
Low Carbon Fuel Standard	$5,182,000	$123,000	$5,305,000
Mobile/Transportation	$10,591,000	$662,000	$11,253,000
Energy	$962,000	$142,000	$1,104,000
Inventory/Monitoring/ Research/Cost of Implementation Fee	$6,800,000	$303,000	$7,103,000
Scoping Plan	$504,000	$5,000	$509,000
Other AB 32 Support Activities	$14,946,000	$1,194,000	$16,140,000
Total	**$46,837,000**	**$4,430,000**	**$51,267,000**

Source: Personnel and operations expenses are obtained from manual monthly tracking reports submitted by ARB staff. Expenses include administrative and legal support combined with a loaded cost per position to cover staffing and overhead costs. All dollars rounded to the nearest thousand.

SECTION 4:

SEMI-ANNUAL UPDATE ON WESTERN CLIMATE INITIATIVE, INC. ACTIVITIES

(July 2015 – June 2016)

This report is required by the provisions of Senate Bill 1018 (Chapter 39, Statutes of 2012)[16], that require advance notice of any Air Resources Board (ARB) payments to the Western Climate Initiative, Incorporated (WCI, Inc.) over $150,000 and semi-annual updates on the actions proposed by Western Climate Initiative, Inc. (WCI, Inc.) that affect California government or entities. This update focuses on recent WCI, Inc. actions, as ARB provides separate notices to the Joint Legislative Budget Committee prior to any transfer or expenditure to WCI, Inc. over $150,000.

I. BACKGROUND

WCI, Inc. is a non-profit corporation that focuses solely on providing administrative support for jurisdictions' cap-and-trade programs, and is separate from the Western Climate Initiative (WCI). WCI, Inc. was formed in 2011 to coordinate administrative services to cap-and-trade programs developed and implemented by states and provinces. The Board of Directors for WCI, Inc. includes officials from the provinces of Québec, Ontario, and British Columbia, and the State of California. The administrative support provided by WCI, Inc. can be expanded to support jurisdictions that join in the future.

The coordinated administrative support from WCI, Inc. benefits California and the other participating programs.

- Coordinated support ensures that all the linked programs use the same highly secure computer program infrastructure, including the compliance instrument tracking system and auction platform.

- Coordinated support allows for analyses performed to support market monitoring in each jurisdiction are conducted consistently and effectively for the entire compliance instrument market across all the linked programs.

[16] Government Code, section 12894(d) "The Chairperson of the State Air Resources Board and the Secretary for Environmental Protection, as the California voting representatives on the Western Climate Initiative, Incorporated, shall report every six months to the Joint Legislative Budget Committee on any actions proposed by the Western Climate Initiative, Incorporated, that affect California state government or entities located within the state."

- Coordinated support enables the linked programs to share the cost of developing and maintaining program infrastructure, thereby reducing the costs for each jurisdiction.

WCI, Inc.'s approach to providing administrative support is to have each jurisdiction specify its administrative requirements, and then for WCI, Inc. to provide support that meets these specifications. Currently, British Columbia, California, Ontario, and Québec participate in WCI, Inc. California and Québec are currently implementing cap-and-trade programs to reduce GHG emissions.

Most of the administrative support provided by WCI, Inc. is highly technical or specialized and has been developed through the use of contractors. WCI, Inc. has entered into contracts to provide administrative support including the following:

- Coordinating the development and administration of the Cap-and-Trade Compliance Instrument Tracking System Service (CITSS);

- Coordinating the development and delivery of CITSS help desk services to California and Québec cap-and-trade program participants;

- Coordinating the development and administration of an allowance auction platform, used by California and Québec to auction emission allowances under their cap-and-trade programs and to conduct reserve sales;

- Coordinating the performance of analyses to support market monitoring performed by each jurisdiction of allowance auctions and allowance and offset certificate trading; and

- Coordinating auction and reserve sale financial administration, which includes evaluation of bid guarantees and settlement (transferring the payments from the auction and reserve sale purchasers to the sellers).

WCI, Inc. is solely administrative in nature. All policymaking and regulatory authority for each jurisdiction's program is retained by each jurisdiction. According to the WCI, Inc. bylaws, its administrative activities must "…conform to the requirements of State and Provincial programs…" The requirements are defined by the participating jurisdictions, such that WCI, Inc. must execute its administrative role in conformance with the requirements established by ARB and the other jurisdictions.

II. UPDATE

A. Introduction

This report describes the activities of WCI, Inc. from July 2015 through December 2015, and presents WCI, Inc.'s anticipated activities in the first half of 2016.

Highlights of recent activities include:

- The WCI, Inc. Board approved a budget for calendar year 2016 at the annual meeting of the Board on November 20, 2015.
- WCI, Inc. completed procurements for Auction and Reserve Sale Administrative Services, Market Analysis Services, and Compliance Instrument Tracking System Service (CITSS) Hosting and Development.
- The WCI, Inc. Board officers were selected at the annual meeting of the Board on November 20, 2015.

In the first half of 2016, WCI, Inc. anticipates continuing to coordinate administrative support to the California and Québec programs. Administrative support will also be provided to Ontario in preparation for its program start.

B. Corporate Governance

WCI, Inc. is governed by a Board of Directors according to its bylaws and the policies adopted by the WCI, Inc. Board. The bylaws and policies are posted on the WCI, Inc. website: http://www.wci-inc.org/documents.php. Table 4-1 lists the policies that have been adopted by the WCI, Inc. Board.

Table 4-1: WCI, Inc. Corporate Policies (as of December 31, 2015)
Records Availability Policy (Adopted December 9, 2013)
Open Meeting Policy (Adopted May 8, 2013)
Accounting Policies and Procedures (Adopted May 8, 2013)
Employee Handbook (Adopted April 15, 2013)
Funds Management Policy (Adopted October 30, 2012)
Procurement Policy (Adopted January 12, 2012)
Audit Committee Charter (Adopted November 3, 2011)
Ethical Guidelines and Conflict of Interest Policy (Adopted November 3, 2011, Revised December 9, 2013)
Retention of Business Records Policy (Adopted November 3, 2011)
Whistleblower Protection Policy (Adopted November 3, 2011)

No new policies were adopted by the WCI, Inc. Board during the second half of 2015.

The directors from California remain unchanged as of December 2015:

- Secretary for Environmental Protection, Matthew Rodriquez
- Chair of the Air Resources Board, Mary Nichols
- Assembly Member Richard Bloom, appointed by the Speaker of the Assembly (non-voting director)
- Mr. Kip Lipper, appointed by the Senate Rules Committee (non-voting director).

As previously reported, on April 13, 2015 the Province of Ontario announced its intention to implement a cap-and-trade program to reduce greenhouse gas emissions (see: http://news.ontario.ca/opo/en/2015/04/cap-and-trade-system-to-limit-greenhouse-gas-pollution-in-ontario.html). Subsequently, in July 2015, Ontario named two directors to the WCI, Inc. Board. Ontario is expected to adopt a cap-and-trade program regulation in 2016.

The WCI, Inc. Board officers were selected at the November 20, 2015 annual meeting of the Board:

- Chair, Mary Nichols (California)
- Vice Chair, Robert Fleming (Ontario)
- Treasurer, Matthew Rodriquez (California)
- Secretary, Jean-Yves Benoit (Québec).

In addition to the annual meeting of the Board, the Board met in publicly noticed Executive Sessions on August 3, 2015, October 8, 2015, and November 20, 2015. The meeting announcements, agendas, and materials were posted on the WCI, Inc. website.

The agendas and minutes of the WCI, Inc. Board meetings are posted at: http://www.wci-inc.org/documents.php.

C. Staffing and Operations

In addition to the Executive Director, WCI, Inc. staffing includes the following.

- Project Managers: WCI, Inc. has one full-time and one part-time project manager to oversee contracts related to CITSS, the auction platform, financial administration, and market analysis.
- Business Services: WCI, Inc. has one full-time administrative manager to support day-to-day business operations and has engaged the services of an accountant.
- Insurance and Banking: WCI, Inc. has retained insurance coverage and banking services.
- Office: WCI, Inc. has an office in Sacramento, California.

- WCI, Inc. has contracted for the services of a corporate counsel.

As previously reported, WCI, Inc. is planning to hire an Assistant Director located in Québec to support the Executive Director with all operational and business requirements.

D. Delivery Capability

WCI, Inc. has entered into the following contracts to provide support to State and provincial programs.

- CITSS Development and Hosting: In May 2012, WCI, Inc. contracted with SRA International, Inc. for the continued development of the CITSS. CITSS provides accounts for program participants to hold compliance instruments and to record transactions of compliance instruments with other account holders. Program participants access CITSS online. CITSS is supporting the programs in California and Québec. At the November 20, 2015 Board meeting, the Board approved amending the contract to support CITSS hosting and development required by the participating jurisdictions in 2016 and 2017.

- Auction Platform: In January 2013, WCI, Inc. contracted with Markit Group Limited for the continued development of the auction platform. The auction platform is used by program participants to apply for each auction or reserve sale and to enter their bid information. Program participants access the auction platform online. California and Québec use the platform to monitor the auctions and reserve sales, and to ensure that all auction and reserve sale requirements are met. In 2015 WCI, Inc. undertook a competitive procurement for an auction platform. A contract was awarded to SRA and its subcontractor EnerNOC.

- Market Analysis: In January 2013, WCI, Inc. contracted with Monitoring Analytics, LLC for analyses in support of market monitoring. The contract supports multi-jurisdictional monitoring for California and Québec linked auctions and linked markets. This work builds upon the substantial efforts by California and Québec for market monitoring. In 2015 WCI, Inc. undertook a competitive procurement for analyses in support of market monitoring. Monitoring Analytics' proposal received the highest evaluation and a new contract was awarded to them.

- Auction and Reserve Sale Financial Administration: In September 2013, WCI, Inc. contracted with Deutsche Bank Trust Company Americas for auction and reserve sale financial administration, which includes evaluation of bid guarantees and settlement (transferring the payments from the auction and reserve sale purchasers to the sellers). In 2015 WCI, Inc. issued a Request for Proposals for Auction and Reserve Sale Finanical Administration. No responsive proposals were received, and WCI, Inc. is evaluating its options, and in the meantime extended the contract with Deutsche Bank Trust Company Americas to ensure continued delivery capability.

- CITSS Help Desk Support: In October 2012, WCI, Inc. contracted with ICF Incorporated, LLC for help desk services to respond to inquiries from CITSS users. In 2015 WCI, Inc. extended this contract.

WCI, Inc. initiated four procurements in 2015 and completed three. The participating jurisdictions provided the specifications for the services required from WCI, Inc., which informed the basis for conducting the procurements. WCI, Inc. involved jurisdiction staff in the preparation and execution of the procurements to guarantee that the services procured satisfy jurisdiction requirements.

Two of the three completed procurements were executed through the release of requests for proposals and evaluations of bids received. The procurement for CITSS Development and Hosting was completed by amending the existing contract for these services (described above). A fourth procurement also relied on the release of a request for proposals, but did not result in the award of a contract in 2015, as described below. The requests for proposals conducted in 2015 included the following.

- The Request for Proposals for Auction and Reserve Sale Services was released in March 2015, and was posted at: http://www.wci-inc.org/rfp-auction-admin.php. Proposals were received and evaluated. SRA International, Inc. was selected and a contract was executed in October 2015.

- The Request for Proposals for Auction and Reserve Sale Financial Services was released in June 2015, and was posted at: http://wci-inc.org/rfp-auction-finance.php. Proposals were received and evaluated. None of the proposals received were considered responsive to the requirements of the Request for Proposals, and no contract was executed. A process to procure Auction and Reserve Sale Financial Services will be initiated in early 2016.

- The Request for Proposals for Market Analysis Services was released in July 2015, and was posted at: http://www.wci-inc.org/rfp-market-monitor.php. Proposals were received and evaluated. Monitoring Analytics, LLC was selected and a contract was executed in October 2015.

As specified in the WCI, Inc. Procurement Policy (available at: http://www.wci-inc.org/docs/2012-01-12_WCI-Inc_Procurement_Policy_Final.pdf), the procurement process was conducted in a manner to ensure open and effective opportunities for competition in order to obtain the best value for the Corporation. The contracts resulting from the procurements exceed $150,000.

E. Budget and Funding

The budget for WCI, Inc. for 2016 and projected expenses for 2017 were adopted at the November 20, 2015 meeting of the WCI, Inc. Board of Directors. The total expenses for the two-year period are $8,879,788. The budget and projected expenses are available on the WCI, Inc. website at:

http://www.wci-inc.org/docs/WCI_Inc_2016 Budget and Projected Expenses for 2017_English_Final.pdf.

Funding for WCI, Inc. is provided by ARB, Québec, and Ontario. The share of funding being provided by each in 2016 and 2017 was determined in three parts:

- The cost of running WCI, Inc. (personnel and operating costs) is divided equally among ARB, Québec, and Ontario.
- The cost of the cap-and-trade service contracts is divided based on the total emissions covered by each jurisdiction's trading program. For administrative support that is shared solely by ARB and Québec, 85 percent of the cost is allocated to ARB and 15 percent to Québec. For support that is shared by all three jurisdictions, 65 percent of the cost is allocated to ARB, 24 percent to Ontario, and 11 percent to Québec.
- The cost of jurisdiction-specific administrative support is assigned fully to each jurisdiction.

F. Payments to WCI, Inc.

For calendar years 2014 and 2015, ARB's share of the WCI, Inc. budget was $4 million. The funding agreement with WCI, Inc. specifies that ARB will make quarterly payments to WCI, Inc. The payments are presented in Table 4-2.

Table 4-2: Payments from ARB to WCI, Inc. for Calendar Years 2014 and 2015

Payment	Payment Date	Amount
2014 Q1 Payment	July 15, 2014	$500,000
2014 Q2 Payment	October 8, 2014	$500,000
2014 Q3 Payment	December 26, 2014	$500,000
2014 Q4 Payment	March 2, 2015	$500,000
2015 Q1 Payment	June 1, 2015	$500,000
2015 Q2 Payment	September 8, 2015	$500,000
2015 Q3 Payment	Invoiced: October 1, 2015	$500,000
2015 Q4 Payment	Invoiced: January 1, 2016	$500,000
Total		**$4,000,000**