California State Senate

COMMITTEE
ON
BUDGET AND FISCAL REVIEW

ROOM 5019, STATE CAPITOL
SACRAMENTO, CA 95814

JIM NIELSEN
Vice-Chair

JOEL ANDERSON
JIM BEALL
TOM BERRYHILL
MARTY BLOCK
ELLEN M. CORBETT
LONI HANCOCK
HANNAH-BETH JACKSON
HOLLY J. MITCHELL
WILLIAM W. MONNING
RICHARD D. ROTH
NORMA TORRES
MIMI WALTERS
RODERICK D. WRIGHT
MARK WYLAND

STAFF DIRECTOR
MARK IBELE

DEPUTY STAFF DIRECTORS
FARRA BRACHT
JENNIFER TROIA

CONSULTANTS
MICHELLE BAASS
CATHERINE FREEMAN
JULIE SALLEY-GRAY
SAMANTHA LUI
JOE STEPHENSHAW
BRADY VAN ENGELEN

COMMITTEE ASSISTANTS
SANDY PEREZ
MARY TEABO

(916) 651-4103
FAX (916) 668-7004

Mark Leno, Chair

Agenda

February 13, 2014
9:30 a.m. - State Capitol, Room 4203

Governor's Proposed 2014-15 Expenditures for Cap and Trade Auction Revenues

I. Legislative Analyst's Office—Analysis of the Governor's Cap and Trade Expenditure Plan

a. Tiffany Roberts, Senior Fiscal and Policy Analyst, Legislative Analyst's Office

II. The Administration's Approach to the Cap and Trade Expenditure Plan

a. Brian Kelly, Secretary, California Transportation Agency
b. Mary Nichols, Board Chair, California Air Resources Board
c. Matt Almy, Assistant Program Budget Manager, Department of Finance

III. Response Panel—Issues for Legislative Consideration

a. Ellen Hanak, PhD, Co-Director of Research, Public Policy Institute of California
b. Cara Horowitz, PhD, Executive Director, Emmet Center on Climate Change and the Environment, University of California at Los Angeles
c. Dan Sperling, PhD, Director, Institute of Transportation Studies, University of California at Davis

IV. Public Comment

Cap and Trade Funding

BACKGROUND:

The goal of the state's climate plan is to reduce Greenhouse Gas (GHG) emissions to 1990 levels by the end of this decade. The Cap and Trade program, a key element in this Administration's plan to achieve these goals, sets a statewide limit on the sources of greenhouse gases and establishes a financial incentive for long-term investments in cleaner fuels and more efficient energy use. The Cap and Trade program places a "cap" on aggregate GHG emissions from entities responsible for roughly 85 percent of the state's GHG emissions. To implement the Cap and Trade program, the Air Resources Board (ARB) allocates a certain number of carbon allowances equal to the cap. Each allowance equals one ton of carbon dioxide equivalent. The ARB provides some allowances for free, while making others available for purchase at auctions. Once the allowances have been allocated, entities can then "trade" (buy and sell on the open market), the allowances in order to obtain enough to cover their total emissions for a given period of time. As part of its program, the ARB will give free allowances to the state's large industrial emitters, as well as the state's electric utilities, in order to reduce the economic impact of the Cap and Trade program.

The ARB has conducted five auctions since November 2012 of GHG emission allowances as part of the market‑based compliance mechanism. These auctions resulted in approximately $532 million in proceeds to the state. The state plans to conduct quarterly auctions in 2014 and estimates roughly $550 million in revenues from those auctions.

Subsequent to the passage of Chapter 488, Statutes of 2006 (AB 32, Núñez and Pavley) the Legislature passed several bills related to the reduction of GHGs. These bills have provided guidance to the Administration as it continues to develop expenditure plans for auction proceeds. In addition, the Administration has issued several executive orders that, though not law, have also provided input into the development of the expenditure plan.

Select Statutory and Executive Guidance for Cap and Trade Expenditures

Statute	Summary
Global Warming Solutions Act 2006, Chapter 488 Statutes of 2006 AB 32 (Núñez and Pavley)	• Established the goal to reduce greenhouse gas emissions to 1990 levels by 2020.
Chapter 830 Statutes of 2012 SB 535 (deLeón)	• Requires 10 percent of cap and trade proceeds be invested within the most impacted and disadvantaged communities. • Requires 25 percent of auction proceeds to benefit impacted and disadvantaged communities.
Chapter 807 Statutes of 2012 AB 1532 (Pérez)	• Required the Administration to develop a three-year investment plan for auction proceeds.
Chapter 728 Statutes of 2008 SB 375 (Steinberg)	• Directs the Air Resources Board to set regional GHG reduction targets and guides sustainable community strategies.
Chapter 39 Statutes of 2012 SB 1018 (Committee on Budget)	• Provides guidance for collection and allocation of auction funds. • Requires state agencies to provide up-front information on GHG emission reductions prior to expenditure for any proposed auction-revenue funded program.

Executive Order	Summary
Executive Order B-18-12 (2012)	• Requires state agencies to reduce GHG emissions by 10 percent by 2015 and 20 percent by 2020.
Executive Order B-16-12 (2012)	• Establishes targets for zero-emission vehicles in the state. • Establishes a GHG emission reduction target of 80 percent less than 1990 levels in the transportation sector by 2050.

GOVERNOR'S PROPOSAL:

Cap and Trade Expenditure Proposal. The Governor's budget proposes to spend $850 million from cap and trade auction revenue in 2014-15. Proposals (summarized below) range from water efficiency to rail modernization. The majority of funding is directed to state agencies for both direct state projects and local assistance grant programs.

Summary of Governor's Cap and Trade Expenditure Proposal for 2014-15

Department	**Activity**	**Amount (millions)**
High-Speed Rail Authority	High-speed rail planning, land acquisition and construction	$250
Air Resources Board	Low-emission vehicle rebates and incentives for low emission vehicles	200
Strategic Growth Council	Transit oriented development grants (Sustainable Communities)	100
Community Services and Development Department	Grants for weatherization and solar installation including the Low-Income Home Energy Assistance Program	80
Caltrans	Intercity rail grants	50
Department of Forestry and Fire Protection	Fire prevention and urban forestry	50
Department of Fish and Wildlife	Wetlands restoration (state and local assistance)	30
Department of Resources Recycling and Recovery	Waste diversion	30
Department of General Services	Energy efficiency upgrades in state buildings	20
Department of Food and Agriculture	Reducing agricultural waste	20
Department of Water Resources	Water use efficiency	20
Totals		**$850 million**

Source: Legislative Analyst's Office, 2014

Transportation and Sustainable Communities. The Governor proposes $600 million for transportation-related programs and projects including:

- **High-Speed Rail (High-Speed Rail Authority).** The budget includes $250 million for the state high-speed rail project. Funding will support construction of the initial operating section. This includes $58.6 million to continue environmental planning of the Phase 1 project extending from San Francisco to Anaheim, and $191.4 million for right-of-way acquisition and construction of the initial construction segment extending from Madera to near Bakersfield. The proposal anticipates a reduction of 4.3 million metric tons of CO_2 equivalents by 2030, with an additional one million CO_2 annually thereafter. The proposal does not specify a GHG reduction target for the 2020 deadline. Trailer bill language is proposed to extend this as an ongoing funding source for the construction of high-speed rail.

- **Rail Modernization (Caltrans).** The budget includes $50 million to Caltrans to expand the existing rail program by implementing and administering the Rail Modernization Grant (RMG) program. The RMG proposes to reduce GHG emissions through traditional capital outlay projects and network integration of high-speed, intercity and commuter rail systems, and transit systems at the operation level. The program includes fare integration and payment systems, and integrated customer information systems. Grants will be administered by the State Transportation Agency and approved by the California Transportation Commission. The proposal does not specify a GHG reduction target for the 2020 deadline.

- **Low Carbon Transportation (Air Resources Board).** The budget proposes $200 million to expand the existing clean transportation programs that provide incentives for sustainable freight technology, zero-emission cars, low-emission cars in disadvantaged communities, and clean trucks and bus programs. The budget also proposes to spend $30 million from current-year proceeds for low-carbon transportation projects. This would reverse a $30 million loan from the Vehicle Inspection and Repair Fund approved in the current-year mainly for electric vehicle rebate programs. The proposal does not specify a GHG reduction target for the 2020 deadline.

- **Sustainable Communities (Strategic Growth Council).** The budget proposes $100 million ($1 million state operations and $99 million local assistance) annually for two years to establish and implement a Sustainable Communities Implementation Program. The program will support local project implementation of regional sustainable community strategy plans, compact and infill development near transit, and development which benefits disadvantaged communities. The proposal incorporates current sustainable communities and clean transportation priorities into a cohesive program, including transit and active transportation infrastructure projects. The proposal includes shifting the Strategic Growth Council from the Natural Resources Agency to the Governor's Office of Planning and Research. The proposal does not specify a GHG reduction target for the 2020 deadline.

Energy Efficiency and Clean Energy Programs. The Governor proposes $140 million for clean energy programs including:

- **Weatherization Upgrades and Local Energy Efficiency (Community Services and Development Department).** The budget proposes $80 million ($75 million local assistance and $5 million state operations) to support the expansion of existing weatherization and solar programs through local service providers, combined with the federal Low Income Home Energy Assistance Program (LIHEAP) and Weatherization Assistance Program. Services will benefit disadvantaged communities through the installation of solar photovoltaic systems, solar water heating systems, and weatherization measures. The use of energy audit tools will determine the installation of cost-effective measures such as insulation, weather stripping and caulking, water heater blankets, fixing or replacing windows, refrigerator replacement, and other specific projects. The proposal does not specify a GHG reduction target for the 2020 deadline, but does include specific outcomes and accountability metrics for number of homes weatherized and number of homes receiving solar technologies.

- **Green State Buildings (Department of General Services).** The budget proposes $20 million to support the expansion of existing energy efficiency programs to reduce GHGs and energy usage in state buildings. The department will use the existing distributed generation, energy retrofit, and zero net energy building design programs to allocate funding. The proposal also includes the establishment of a state-funded revolving loan fund for energy efficiency retrofit projects in the future. The proposal includes metrics for installation of megawatts (MW) of clean energy (solar and wind, for example) and for the conversion of buildings to zero net energy, but does not specify a GHG reduction target for the 2020.

- **Emission Reductions through Agriculture (Department of Food and Agriculture [CDFA]).** The budget proposes $20 million to support the development and implementation of three specific programs at CDFA: (1) $12 million for a dairy digester research and development program to facilitate the design and construction of dairy digester systems; (2) nitrogen research and management program to fund research and technical assistance on reducing nitrous oxide emissions, nitrification inhibitors, water and nitrogen movement in the environment, and evaluation of water and nitrogen management practices; and, (3) an alternative and renewable fuels program to develop fuel quality specifications and standards for renewable and zero emission fuels, such as biofuels produced from dairy digesters and other agricultural waste. This proposal anticipates the reduction of between 15,000 and 21,600 metric tons of CO_2 through the dairy digester program. The other programs do not specify a GHG reduction target but do include metrics for such measurement.

- **Water-Energy Efficiency Programs (Department of Water Resources).** The budget proposes $20 million annually for two years to support a new water-energy grant program and for a single State Water Project replacement and rehabilitation project. Over the two year period, the budget allocates $20 million to upgrade the State Water Project facilities at the Hyatt and Thermalito power generation sites near Oroville. The budget also allocates $20 million ($18 million local assistance and $2 million state operations) for the development and implementation of a grant program designed to reduce GHG emissions at the local level. This proposal specifies outcomes in terms of grants allocated and executed, but does not specify a GHG reduction target.

- **Wetland Restoration (Department of Fish and Wildlife).** The budget proposes $30 million ($4.2 million state operations, $25.8 million local assistance) for wetland restoration. Projects include: (1) planning and implementation of Sacramento-San Joaquin Delta and coastal restoration projects that integrate GHG reduction, flood protection, habitat restoration, and climate change readiness; (2) planning and implementation of mountain meadows restoration in the Cascade and Sierra Nevada mountain ranges including groundwater storage, stream flow stability, water supply and habitat restoration; and, (3) planning and implementation of wetland restoration and water efficiency projects on state-owned and administered lands. These projects will provide the state a dedicated program for integrating wetland restoration for fish and wildlife with water supply improvement and carbon sequestration. This proposal does not include a specific GHG reduction target, but does include metrics for measurement of reduction of GHGs through carbon update, measured in carbon per acre.

- **Forest Management and Fire Prevention (Department of Forestry and Fire Protection[CalFIRE]).** The budget proposes $50 million per year, for two years ($25.8 million state operations and $24.2 million local assistance in year one, $50 million in state operations in year two) to support existing and expanded programs at CalFIRE. These include: (1) urban and community forestry local assistance grants; (2) demonstration state forests and cooperative wildland research mainly at state forest facilities; (3) fuel reduction through CalFIRE's vegetation management program which are designed to reduce wildland fire threat through a cost-sharing program with landowners that focuses on a combination of treatment types; (4) reforestation services under the authority of the state nurseries and reforestation studies statutory guidance; (5) funding for the forest legacy program to invest in forestlands to prevent future conversion to non-forest use; and, (6) continued implementation of the forest practice program and forest pest control programs. This proposal does not include a specified GHG reduction target but does include in the proposal a plan to develop GHG reduction metrics prior to implementation.

- **Waste Reduction, Recycling, and Composting (CalRecycle).** The budget proposes $30 million annually, for two years, to support the expansion of existing recycling programs designed to reduce methane emissions at landfills and reduce further GHG in upstream management and manufacturing processes. The majority of funding ($20 million per year) will be used for grants and loans for in-state development of infrastructure to process organic materials and recyclable commodities into new value-added products. An additional $10 million per year will be used to establish a new GHG revolving loan fund to provide financial assistance through low-interest loans for recycling market development zones. This proposal includes metrics for measurement of GHG reduction and a specific target of 1-2 million metric tons of GHG reduction by the end of 2014-15.

ISSUES TO CONSIDER:

Achieving Greenhouse Gas Emission Reductions. According to the LAO, in order to minimize the economic impact of cap and trade, it is important that auction revenues be invested in a way that maximizes GHG emission reductions. Maximizing emission reductions (specifically in the capped sectors) reduces competition for allowances, thereby putting downward pressure on the price of allowances. This, in turn, reduces the overall cost for covered entities to comply with AB 32 and the potential negative economic impacts of the program on consumers, businesses, and ratepayers. It is, however, unclear to what extent the complement of activities proposed by the Governor would maximize GHG emission reductions. For example, a GHG emission analysis completed by the High-Speed Rail Authority (HSRA) indicates that once the high-speed rail system is operational in 2022, it would contribute a relatively minor amount of GHG emission reductions to the state. Moreover, the construction of the project would actually produce additional emissions (though HSRA will try to offset these emissions). Despite these findings, roughly 30 percent of the funding in the Governor's proposal goes to the high–speed rail project and at this time it is unknown how much in future cap and trade revenues the Administration seeks to commit to the project because the proposed trailer bill language has not been made public. Compared to a different mix of investments that could be made with the cap and trade revenue, the Governor's proposal is unlikely to maximize GHG emission reductions. Therefore, the Legislature will need to consider the most effective use of the cap and trade auction revenue.

Legal Considerations for GHG Reductions and the 2020 Deadline. The LAO advises that the Legislature will also want to consider the potential legal risks associated with some of the activities that the Governor proposes to fund with cap and trade auction revenue. Based on an opinion that the LAO received from Legislative Counsel, the revenues generated from ARB's cap and trade auctions are considered "mitigation fee" revenues. Thus, the use of these revenues are subject to certain legal criteria. Specifically, the LAO advises that their use is subject to the so-called Sinclair nexus test. This test requires that a clear nexus must exist between an activity for which a mitigation fee is used and the adverse effects related to the activity on which that fee is levied. Given this legal requirement, the Administration's proposal to fund activities (such as high-speed rail) could be legally risky. While the high-speed rail project could eventually help reduce GHG emissions somewhat in the very long run, it would not help achieve AB 32's primary goal of reducing GHG emissions by 2020. This issue is discussed further in the Transportation section of this report.

High Speed Rail or More Funding for Other Rail Projects? While the high-speed rail project may help the state to address future transportation needs, the project does little to achieve the goals of AB 32 and reducing GHG emissions by 2020. In fact, the construction of the project will increase GHG emissions in the near term. In addition, at this time, given various lawsuits and a lack of identified future funding for the project, the likelihood of the completion of an operational section of the project is uncertain.

Given these concerns, the Legislature may wish to modify the budget request of $300 million ($250 million for high-speed rail and $50 million for rail modernization) for rail projects and provide a greater amount of funding for the Rail Modification Grant program. Grants to intercity, commuter, and urban rail operators are more likely to result in projects that can be completed in the near-term, reduce GHG emissions, and reduce congestion and improve mobility in the state. If more funding were provided for rail modernization projects, the Legislature may wish to require that the competitive grant process considers the amount of GHG reductions the project would achieve as criteria for awarding grants. The Legislature may also wish to adopt legislation to help ensure that the program guidelines equally consider projects beyond system integration and allow for grants to fund projects, such as the electrification of rail systems or purchase of new equipment, that emits fewer GHGs.

What Should be the Mix of State Versus Local Natural Resources Programs? The three natural resources proposals (wetland restoration, water efficiency, and fire prevention) all include a mix of state-funded projects versus local assistance, mainly in the form of grants. For example, the water efficiency funding would be split 50-50 between grants to locals for water efficiency projects and a single state-owned State Water Project facility upgrade. Similarly, the forestry proposal includes $24.2 million for local assistance over two years and $75.8 million for state operations for the same time period. The wetlands restoration proposal includes about $4-5 million per year for state operations and about $25 million per year for local assistance. At the local level, there are few funding sources dedicated directly for GHG emission reductions, though efficiency is always a part of local project administration. The state also has several state conservancies dedicated to specific land and wetland restoration that are designed to have a more concerted state-local focus, however these conservancies were not included in the proposal. The Legislature should consider these natural resources proposals individually to determine whether it agrees with the state-local funding mix proposed. Without clear metrics, it is difficult to determine whether the state or locals will achieve the greater amount of GHG emission reductions before 2020.

LAO
70 YEARS OF SERVICE

February 13, 2014

Cap-and-Trade Auction Revenue Expenditure Plan

LEGISLATIVE ANALYST'S OFFICE

Presented to:
Senate Committee on Budget and Fiscal Review
Hon. Mark Leno, Chair

LAO
70 YEARS OF SERVICE

Background

- ☑ ***California's Climate Change Goals.*** The Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006 [AB 32, Núñez/Pavley]) established the goal of reducing greenhouse gas (GHG) emissions statewide to 1990 levels by 2020 and directed the California Air Resources Board (ARB) to develop a plan to meet this goal.

- ☑ ***Authorization of Market-Based Compliance Mechanism.*** The legislation authorized (but did not require) ARB to have, as part of its plan, a market-based mechanism that includes an annually declining limit on GHG emissions and a trading component whereby GHG emitters may buy and sell carbon allowances to comply with the regulation—commonly referred to as a cap-and-trade program.

- ☑ ***ARB's Cap-and-Trade Regulation.*** In 2011, ARB adopted a regulation that established a cap-and-trade program designed to cap the aggregate amount of GHGs emitted from the state's largest emissions sources (referred to as the "covered entities") that collectively represent roughly 85 percent of the state's total GHG emissions.

How Cap-and-Trade Works

- A cap-and-trade program sets a limit or "cap" on aggregate emissions.
- In order to operationalize the cap, the state creates allowances where each allowance equals one ton of carbon dioxide equivalent (CO2e). The state then makes available a number of allowances equal to the numeric value of the cap.
- The regulator then requires covered entities to obtain allowances equal to their total emissions in a given period of time.
- Because the cap declines and allowances become more scarce over time, allowance prices would be expected to increase. As allowances become more expensive, emitters have a greater incentive to find ways to reduce their emissions in order to avoid having to purchase as many of the relatively more expensive allowances.

LAO
70 YEARS OF SERVICE

Key Features of California's Cap-and-Trade Program

- ☑ The state's 2020 GHG emission target is 427 million metric tons of CO2e.
- ☑ By the time the cap is fully implemented, roughly 350 companies will be subject to the cap. Examples of these covered entities include oil refineries, power plants, and industrial manufacturers.
- ☑ Over the entirety of the program, roughly 50 percent of allowances will be distributed for free while the other half will be auctioned.
- ☑ The ARB holds quarterly allowance auctions.
- ☑ Since November 2012, five auctions have been held. They have generated $532 million in state revenue. The next auction is scheduled for February 19, 2014.

Prior Legislative Direction for Use of Auction Revenue

- ☑ ***Chapter 39, Statutes of 2012 (SB 1018, Committee on Budget and Fiscal Review).*** This legislation created a new special fund—the Greenhouse Gas Reduction Fund (GGRF)—into which auction revenues are deposited. It also required departments spending monies from the GGRF to prepare a record specifying the following:
  - A description of proposed expenditures.
  - How expenditures will further the purposes of AB 32.
  - How expenditures will achieve GHG emission reductions.
  - How the department considered other non-GHG objectives.
  - How the department will document expenditure results.

- ☑ ***Chapter 807, Statutes of 2012 (AB 1532, Perez).*** Enacted in September 2012, Chapter 807 directs the Department of Finance to develop and periodically update a three-year investment plan that identifies feasible and cost-effective GHG emission reduction investments to be funded with cap-and-trade auction revenues. The ARB released the first investment plan in May 2013.

- ☑ ***Chapter 830, Statutes of 2012 (SB 535, de Leon).*** Chapter 830 requires that 25 percent of auction revenue be used to benefit disadvantaged communities. Chapter 830 also requires that 10 percent of auction revenue be invested in disadvantaged communities.

LAO
70 YEARS OF SERVICE

Governor's Cap-and-Trade Budget

Governor's 2014-15 Cap-and-Trade Expenditure Plan

(In Millions)

Department	Activity	2013-14	2014-15
Sustainable Communities and Clean Transportation			
High Speed Rail Authority	Rail planning and land acquisition	—	$250
Air Resources Board	Low-emission vehicle rebates	$31	200
Strategic Growth Council	Sustainable communities	—	100
Caltrans	Intercity rail grants	—	50
Subtotals		($31)	($600)
Energy Efficiency and Clean Energy			
Community Services and Development	Home energy efficiency upgrades	—	$80
General Services	Energy efficiency—state buildings	—	20
Food and Agriculture	Agricultural waste	—	20
Water Resources	Wetlands restoration	—	20
Subtotals		(—)	($140)
Natural Resources and Waste Diversion			
CalFire	Fire prevention and urban forestry	—	$50
Fish and Wildlife	Water use efficiency	—	30
CalRecycle	Waste diversion	—	30
Subtotals		(—)	($110)
Totals		**$31**	**$850**

- ☑ The Governor's cap-and-trade expenditure plan proposes to spend $31 million from the GGRF in 2013-14, and $850 million from the GGRF in 2014-15. The administration proposes to continue funding for most programs at the same level in 2015-16, except that it has not at this time identified a proposed 2015-16 funding amount for high-speed rail or intercity-rail grants.

- ☑ The proposed plan would fund a variety of existing and new programs in 11 state departments and boards. In several cases, departments' proposals actually include multiple distinct components.

LAO
70 YEARS OF SERVICE

Governor's Cap-and-Trade Budget

(Continued)

☑ The Governor's budget also includes (1) a partial repayment of $100 million of a loan made from the GGRF to the General Fund in 2013-14, and (2) ten positions for ARB to develop metrics which can be used by departments to evaluate the effectiveness of GGRF expenditures.

☑ The Governor's proposed uses of cap-and-trade auction revenues in 2014-15 fall in one of the three following categories:

- ***Sustainable Communities and Clean Transportation ($600 Million).*** The Governor's budget proposes funding from the GGRF for land acquisition and planning for the high-speed rail project, intercity rail ticketing and marketing, transit-oriented development, and vehicle rebate programs.

- ***Energy Efficiency and Clean Energy ($140 Million).*** The Governor's budget also proposes funding for low-income weatherization, zero-net energy state buildings, agricultural energy, and water efficiency.

- ***Natural Resources and Waste Diversion ($110 Million).*** The Governor's budget proposes funding for wetlands restoration, urban forestry, and waste diversion.

LAO
70 YEARS OF SERVICE

Expenditure Plan Not Likely to Maximize Emission Reductions

- ☑ In order to minimize the economic impact of the program, it is important that auction revenues be invested in a way that maximizes emission reductions. Maximizing emission reductions reduces competition for allowances thereby putting downward pressure on price of allowances. This, in turn, reduces overall cost of compliance for covered entities and the potential negative economic impacts on consumers, businesses, and ratepayers.

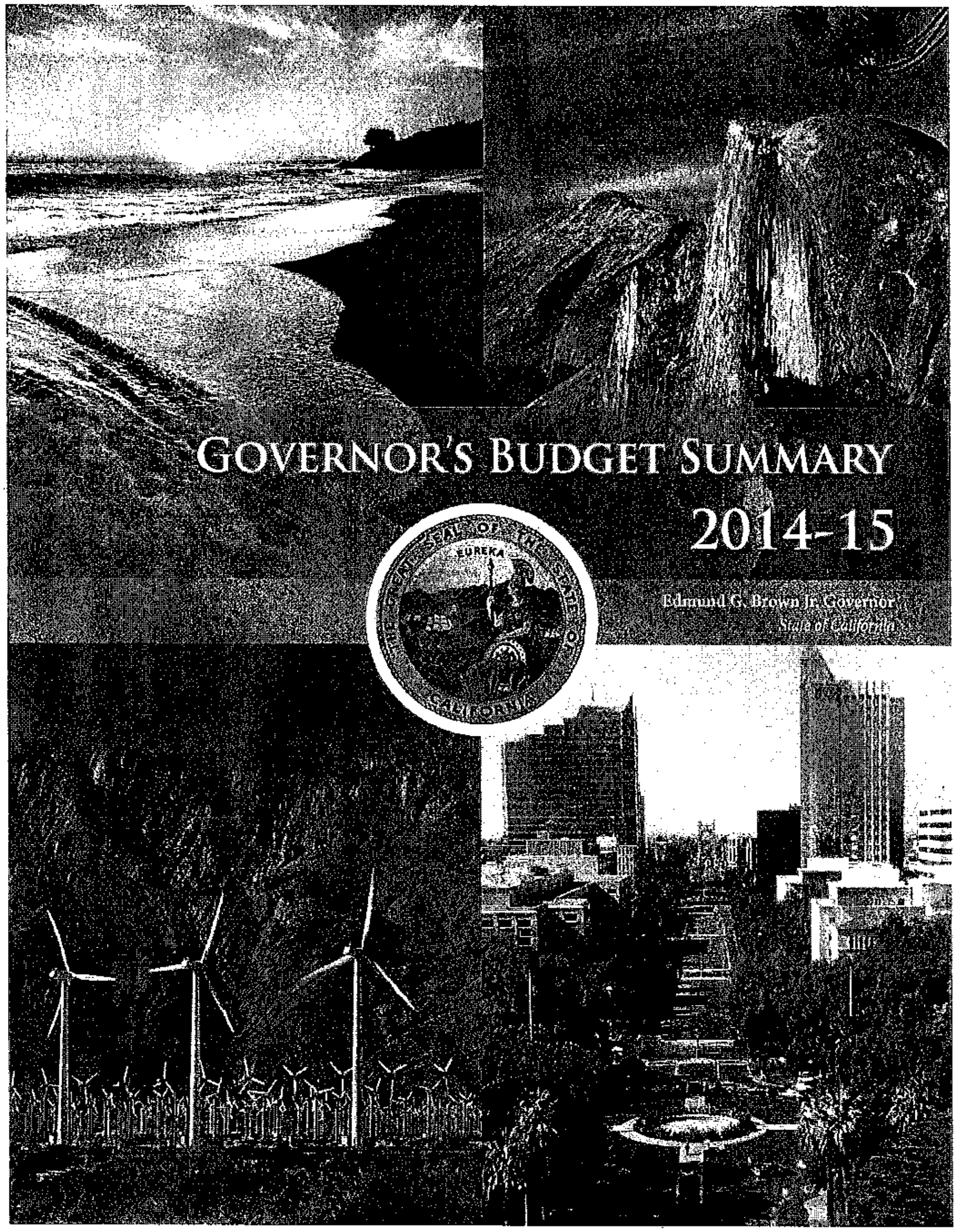
- ☑ It is, however, unclear to what extent the complement of activities proposed by the Governor maximizes GHG emission reductions. For example, a GHG emission analysis completed by the High Speed Rail Authority (HSRA) indicates that once the high-speed rail system is operational in 2022, it would contribute a relatively minor amount of GHG emission reductions to the state. Moreover, the construction of the project would actually produce additional emissions (though HSRA will try to offset these emissions).

LAO 70 YEARS OF SERVICE

Issues for Legislative Consideration

☑ In reviewing the administration's expenditure plan, as well as the individual programs proposed for funding, the Legislature will want to consider the following questions.

- ***GHG Reduction Levels.*** To what extent will the proposal reduce emissions in a cost-effective manner? What research is there in the literature on the effectiveness of the activity at reducing GHG emissions? To what extent will each proposal reduce GHG emissions prior to 2020?
- ***Legislative Priorities.*** To what extent do the proposed programs meet legislative policy priorities?
- ***Legal Risks.*** What are the potential legal risks associated with the proposed activities?
- ***Guidelines and Metrics.*** What guidelines will the administration give to departments to ensure that the expenditure of GGRF funding maximizes GHG emission reductions? Will the administration provide departments with metrics to evaluate proposed projects' potential emission reductions before departments make those investments?
- ***Co-Benefits.*** How does the administration plan to weigh GHG emission reductions against potential co-benefits, such as improvements to air quality or water supply? How will departments quantify potential co-benefits?
- ***Administration.*** Are there implementation challenges departments will face in administering these programs? To what extent will some programs require coordination among departments? Will departments have the right level of resources to properly administer programs, particularly for new grant programs?
- ***Outcomes.*** How will departments track and report outcomes? How will that information affect future funding decisions?



To the California Legislature
Regular Session 2013-14

Environmental Protection

The California Environmental Protection Agency works to restore, protect, and enhance environmental quality. The agency coordinates the state's environmental regulatory programs to provide fair and consistent enforcement of the law.

The Budget proposes total funding of $3.6 billion ($54 million General Fund and $3.5 billion other funds) for all programs included in this Agency.

Cap and Trade Investment Plan

The California Global Warming Solutions Act of 2006 (AB 32) established California as a global leader in reducing greenhouse gas emissions (GHGs). To meet the goals of AB 32, the state has adopted a three-pronged approach to reducing greenhouse gas emissions, including adopting standards and regulations, providing emission reduction incentives via grant programs, and establishing a market-based compliance mechanism known as Cap and Trade. The Cap and Trade program, as one component of the state's comprehensive approach, sets a statewide limit on the GHG sources responsible for 85 percent of California GHG emissions. Through an auction mechanism, it establishes a financial incentive for industries subject to the statewide cap to make long-term investments in cleaner fuels, more efficient energy use, and transformational technological and scientific innovations. The Cap and Trade program provides GHG emitters the flexibility to implement the most efficient options to reduce GHG emissions. Based on the draft update to the AB 32 Scoping Plan, the Cap and Trade program will be responsible for approximately 30 percent of the required GHG emission reductions to meet the AB 32 goal of reducing GHG emissions to 1990 levels by 2020.

The Air Resources Board has held five auctions to date. The remaining two auctions for 2013-14 will occur in February and May 2014. Currently, GHG emissions from electricity and large industrial sources are subject to the cap. The sale of allowances consigned to auction by electric distribution utilities resulted in proceeds of $836 million, to be used as directed by the California Public Utilities Commission or governing boards for ratepayer benefits consistent with the goals of AB 32. In addition, the five auctions to date have generated $532 million in state auction proceeds.

Chapter 830, Statutes of 2012 (SB 535), requires that at least 10 percent of the proceeds received by the state be invested within the most impacted and disadvantaged communities and at least 25 percent of the proceeds be invested to benefit these communities. The California Environmental Protection Agency (CalEPA), directed by SB 535, determined the list of disadvantaged communities using CalEnviroScreen, a tool developed by the Office of Environmental Health Hazard Assessment, in collaboration with stakeholders and an advisory group.

From October 2012 to May 2013, an inter-agency team drafted and developed the first three-year investment plan for Cap and Trade auction proceeds, consistent with the requirements of Chapter 807, Statutes of 2012 (AB 1532). Outreach included public meetings in Fresno, Los Angeles and Sacramento, and an Air Board workshop and hearing. The final investment plan, released in May 2013, contained a summary of the more than 350 public comments received. The plan, which continues through the 2015-16 fiscal year, emphasizes investments in existing programs in sectors which have the greatest GHG emissions—transportation, energy, waste and natural resources—with proposed investments commensurate with relative emissions. The plan aims to advance GHG reductions, strengthen communities, especially those most impacted by emissions, create jobs and spur innovation, with the goal of supporting California's transformation to a clean economy. The 2013 Budget Act included a $500 million loan of auction proceeds to the General Fund.

The Budget proposes to invest $850 million of Cap and Trade proceeds to support existing and pilot programs that will promote GHG reductions and meet SB 535 goals (see Figure EPA-01). This amount includes repayment of $100 million of the 2013 Budget loan, with the remaining balance being repaid within the next few years. State agencies worked in coordination with stakeholders to develop the plan. It draws on the findings

Figure EPA-01
Cap and Trade Expenditure Plan
(Dollars in Millions)

Investment Category	*Department*	*Program*	*Amount*
Sustainable Communities and Clean Transportation	High-Speed Rail Authority/ Caltrans	Rail Modernization	$300
	Strategic Growth Council	Sustainable Communities	$100
	Air Resources Board	Low Carbon Transportation	$200
Energy Efficiency and Clean Energy	Department of Community Services and Development	Energy Efficiency Upgrades/Weatherization	$80
	Department of General Services	Green State Buildings	$20
	Department of Food and Agriculture	Agricultural Energy and Operational Efficiency	$20
	Department of Water Resources	Water Action Plan - Water and Energy Efficiency	$20
Natural Resources and Waste Diversion	Department of Fish and Wildlife	Water Action Plan - Wetlands and Watershed Restoration	$30
	Department of Forestry and Fire Protection	Fire Prevention and Urban Forestry Projects	$50
	Cal Recycle	Waste Diversion	$30
Total			**$850**

of related climate policy documents, including the discussion draft of the Governor's Environmental Goals and Policy Report and the draft update to the AB 32 Scoping Plan. These reports describe the latest climate science, which indicates a need for immediate reductions in both greenhouse gases and short-lived climate pollutants, and a long-term shift to more sustainable practices. The Budget's expenditure plan meets these goals by investing in both near-term emission reductions and projects that support California's longer-term climate targets. Finally, these programs improve air and water quality, invest at least $225 million for the benefit of disadvantaged communities, and create jobs.

Specifically, the Cap and Trade Expenditure Plan proposes investments in the following programs:

SUSTAINABLE COMMUNITIES AND CLEAN TRANSPORTATION

- Rail Modernization—$300 million to continue the work of modernizing and integrating rail transportation. A modernized rail system benefits California by improving mobility across the state in a manner that will increase transit ridership and reduce GHG emissions. These funds will continue the work begun in 2012, when the Legislature approved Chapter 152, Statutes of 2012 (SB 1029), which provided $7.8 billion in state and federal funds to start construction of high-speed rail and to modernize existing rail systems across the state. The Budget proposes the following allocation:

- High-Speed Rail—$250 million for the High-Speed Rail Authority for construction of the Central Valley initial construction segment and further environmental and design work on the statewide system. Proposed legislation provides an ongoing state commitment of Cap and Trade proceeds to high-speed rail, which will leverage additional federal support for the project and facilitate future phases of the initial operating segment from Merced to the San Fernando Valley.

- Integration of Rail Systems—$50 million for the Department of Transportation to administer a competitive grant program for existing rail operators for capital improvements to integrate rail systems, including those located in disadvantaged communities, and provide connectivity to the high-speed rail system.

- Sustainable Communities—$100 million in local assistance funding to support regions in the implementation of the sustainable communities strategies required by Chapter 728, Statutes of 2008 (SB 375), and to provide similar support to other areas with GHG reduction policies, but not subject to SB 375 requirements. The Strategic Growth Council will coordinate this program with programmatic work performed by a multi-agency team of departments, including the Department of Transportation, the California Transportation Commission, the Department of Housing and Community Development, and the Natural Resources Agency. Selected projects will prioritize disadvantaged communities and will reduce GHG emissions by increasing transit ridership, active transportation (walking/biking), affordable housing near transit stations, preservation of agricultural land, and local planning that promotes infill development and reduces the number of vehicle miles traveled.

- Low Carbon Transportation—$200 million for the Air Board to accelerate the transition to low carbon freight and passenger transportation, with a priority for disadvantaged communities. This investment will support the state's clean air and climate change goals, as well as the Administration's goal to deploy 1.5 million zero-emission vehicles in California by 2025. The Air Board administers existing programs that provide rebates for zero-emission cars and vouchers for hybrid and zero-emission trucks and buses. This proposal will respond to increasing demand for these incentives, as well as provide incentives for the pre-commercial demonstration of advanced freight technology to move cargo in California, which will benefit communities near freight hubs.

ENERGY EFFICIENCY AND CLEAN ENERGY

- Weatherization Upgrades/Renewable Energy—$80 million for the Department of Community Services and Development to assist in the installation of energy efficiency and renewable energy projects in low-income dwellings within disadvantaged communities. Weatherization measures typically include weather-stripping, insulation, caulking, water heater blankets, fixing or replacing windows, refrigerator replacement, electric water heater repair/replacement, and heating and cooling system repair/replacement. Renewable energy measures include installation of solar water heater systems and photovoltaic systems. This proposal will serve a mix of single- and multi-family dwellings, leveraging existing federal Low Income Home Energy Assistance Program and Weatherization Assistance Program funds, workforce development agency funding, utility-funded incentives, and other similar resources.

- Green State Buildings—$20 million for the Department of General Services to implement Executive Order B-18-12 that requires state agencies to reduce GHG emissions by 10 percent by 2015 and 20 percent by 2020. The Department will assist state agencies in the construction of zero net energy state buildings, reduction of grid-based energy purchases at state-owned buildings, and the use of clean, on-site power generation, such as fuel cells, solar photovoltaic, solar thermal, and wind power generation.

- Agricultural Energy and Operational Efficiency—$20 million for the Department of Food and Agriculture to support projects that reduce GHG emissions from the agriculture sector by capturing greenhouse gases, harnessing greenhouse gases as a renewable bioenergy source, improving agricultural practices and promoting low carbon fuels, agricultural energy, and operational efficiency. This proposal will support: 1) the design and construction of dairy digester systems; 2) research and technical assistance on reducing nitrous oxide emissions, nitrification inhibitors, water and nitrogen movement in the environment, and evaluation of water and nitrogen management practices; and 3) the development of fuel quality specifications and standards for renewable and zero emissions systems, such as biofuels produced from dairy digesters and other agricultural waste.

- Water Action Plan/Water-Energy Efficiency—$20 million for the Department of Water Resources for water and infrastructure efficiency projects that also result in energy savings. This proposal will provide additional funding for grants that support water use efficiency projects, such as leak loss detection and repair projects that have a demonstrated ability to reduce GHG emissions, with additional consideration given to projects that help address critical water supply needs of disadvantaged communities. The proposal will also support efficiency upgrades at two State Water Project facilities, Thermalitio and Hyatt, which will result in more efficient generation of clean power and improved system reliability.

NATURAL RESOURCES AND WASTE DIVERSION

- Water Action Plan/Wetlands and Coastal Watersheds—$30 million for the Department of Fish and Wildlife to implement projects that provide carbon sequestration benefits, including restoration of wetlands (including those in the Delta), coastal watersheds and mountain meadows. In addition to meeting the goals of AB 32, these types of projects are identified in the Water Action Plan as integral to developing a more sustainable water management system statewide.
- Fire Prevention and Urban Forests—$50 million for the Department of Forestry and Fire Protection to support urban forests in disadvantaged communities and forest health restoration and reforestation projects that reduce wildfire risk and increase carbon sequestration. This proposal will enhance forest health and reduce fuel loads in light of climate change impacting wildfire intensity and damage across the landscape.
- Waste Diversion—$30 million for the Department of Resources, Recycling, and Recovery to provide financial incentives for capital investments that expand waste management infrastructure, with a priority in disadvantaged communities. Investment in new or expanded clean composting and anaerobic digestion facilities is necessary to divert more materials from landfills, a significant source of methane emissions. These programs reduce GHG emissions and support the state's 75 percent solid waste recycling goal.

STATE WATER RESOURCES CONTROL BOARD

The State Water Resources Control Board and the nine Regional Water Quality Control Boards preserve and enhance the quality of California water resources, and the allocation and use of state water. The Budget includes $1 billion ($23 million General Fund) and 1,864 positions for the Board.

REORGANIZATION OF THE DRINKING WATER PROGRAM

Programs designed to protect water quality for drinking and other purposes are housed in multiple agencies, reducing their effectiveness.

Senate Budget and Fiscal Review—February 13, 2014

Speaker Biographies

Ellen Hanak, PhD

Co-Director of Research, Public Policy Institute of California

Ellen Hanak is an economist and senior policy fellow at the Public Policy Institute of California (PPIC). Her career has focused on the economics of natural resource management and agricultural development. Since joining PPIC in 2001, she has built an influential, multi-disciplinary water policy research program involving scholars from across California. She has also held research positions with the French agricultural research system, the U.S. President's council of Economic Advisors, the World Bank, and the Brookings Institution.

Ms. Hanak has authored numerous publications related to California's water policy, climate change and climate adaptation.

Senate Budget and Fiscal Review—February 13, 2014

Speaker Biographies

Cara Horowitz, PhD

Executive Director, Emmet Center on Climate Change and the Environment, University of California, Los Angeles

Cara Horowitz is the executive director of the Emmett Center on Climate Change and the Environment at UCLA School of Law. The Emmett Center was founded as the first law school center in the nation focused on climate law and policy. Cara teaches at the law school and directs the work of the Emmett Center to advance innovative research, public policy debate, and legislative reform to address climate change and its effects.

Cara's areas of focus include California and federal climate policy and local sustainability. She has testified to the California legislature on climate policy and has been quoted in the Washington Post, the Daily Journal, the Los Angeles Times, and other media. She serves on the governing boards of local and national environmental organizations, including the Climate Law Institute, Climate Resolve, and the Green LA Coalition.

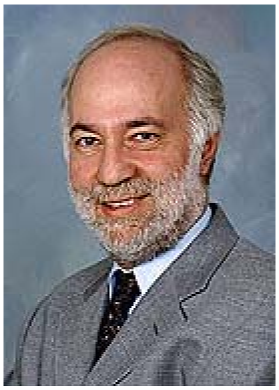
Prior to joining UCLA, Cara worked in the non-profit sector as a staff attorney at the Natural Resources Defense Council, where she litigated high-profile cases and advocated domestically and internationally to preserve and protect oceans and wildlife. She has also worked at Caldwell, Leslie and Proctor, a litigation boutique, and served as law clerk to the Honorable Dorothy W. Nelson of the U.S. Court of Appeals for the Ninth Circuit. Horowitz is a 2001 graduate of the UCLA School of Law, where she was an articles editor of the UCLA Law Review and finished first in her class.

Senate Budget and Fiscal Review—February 13, 2014

Speaker Biographies

Dan Sperling, PhD

Director, Institute of Transportation Studies, University of California, Davis.



Daniel Sperling is Professor of Civil Engineering and Environmental Science and Policy, and founding Director of the Institute of Transportation Studies at the University of California, Davis (ITS-Davis). Dr. Sperling has led ITS-Davis to international prominence by building strong partnerships with industry, government, and the environmental community, integrating interdisciplinary research and education programs, and connecting research with public outreach and education. Professor Sperling also serves as Acting Director of the UC Davis Energy Efficiency Center.

Dr. Sperling is recognized as a leading international expert on transportation technology assessment, energy and environmental aspects of transportation, and transportation policy. He is chair of the Davos World Economic Forum's Council on "Future of Mobility" and recent chair of the U.S. Transportation Research Board's standing committees on Sustainable Transportation and Alternative Fuels. He was honored as a lifetime National Associate of the National Academies, is author or editor of 200 technical articles and 11 books, including Two Billion Cars (Oxford University Press, 2009), and has testified many times before the U.S. Congress on alternative fuels and advanced vehicle technology.

He earned his Ph.D. in Transportation Engineering from the University of California, Berkeley (with minors in Economics and Energy & Resources) and his B.S. in Environmental Engineering and Urban Planning from Cornell University. Professor Sperling worked two years as an environmental planner for the US Environmental Protection Agency and two years as an urban planner in the Peace Corps in Honduras.