Cap and Trade Expenditure Plan—California Integrated Climate Investment Program

The Governor’s Office of Business and Economic Development, California Infrastructure and Economic Development Bank (IBank) requests $20 million from the Greenhouse Gas Reduction Fund (GGRF) to facilitate greenhouse gas (GHG) emission reductions through the California Integrated Climate Investment Program (CICIP). The CICIP will use the IBank’s California Lending for Energy and Environmental Needs (CLEEN) Center to provide financing for innovative clean energy projects in California that reduce greenhouse gas emissions and improve climate resilience.

As California and other jurisdictions across the globe join together to combat climate change and prepare for its impacts, traditional models for investment in infrastructure must be enhanced and expanded to provide capital at the necessary speed and scale to meet the challenge. The CICIP will help California respond to these future investment needs.

The CICIP will be used to finance local government climate-smart infrastructure improvement projects, including projects related to energy efficiency, renewable energy, energy storage, alternative energy technologies, alternative fuels, and clean transportation. Eligible applicants also include some non-profit corporations, small businesses, and public universities, schools and hospitals. It will enable the state to maximize private sector investments and bundle innovative smaller projects for funding with a single investment pool. The program will build on the IBank’s success in raising capital and providing centralized expertise for evaluating, underwriting and financing a broad scope of projects for a variety of public borrowers. Once made, these new financings will be pledged to larger issuances of IBank tax-exempt and taxable revenue bonds to expand access to private investor funds.

Additionally, with the establishment of the Program, the Administration will convene a group of leading experts to serve as advisors for the Program. These advisors will assist with the development of new funding models, partnerships and categories of projects to enhance California’s clean energy capital markets and investments in resilience.
The Office of Planning and Research and the Strategic Growth Council (SGC) request $25 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the continued implementation of the Transformative Climate Communities (TCC) Program. The TCC Program empowers communities most impacted by pollution to choose their own goals, strategies, and projects to reduce greenhouse gas emissions and air pollution. By funding neighborhood-level development and infrastructure, the Program catalyzes major environmental, health, and economic transformation in local jurisdictions that are home to some of the most disadvantaged communities in California. TCC Program also utilized $1.5 million from Proposition 84 to fund ten additional communities to undertake planning activities that will help them develop proposals for their own transformative climate community strategy.

**TCC Program Status and Outcomes**

Chapter 371, Statutes of 2016, (AB 2722) established the TCC Program and the 2016 Budget Act allocated $140 million in funding. In 2017, an additional $10 million was provided for the program. To ensure that 100 percent of TCC funds benefit California’s disadvantaged communities, in the first year of the program the SGC adopted a regulation requiring grants to be awarded to the most disadvantaged communities. These communities have been identified as those with a majority of Census Tracts that fall within the top 5 percent of disadvantaged communities, as defined by the California Environmental Protection Agency using CalEnviroScreen 3.0. Through a competitive process, grants to three recipients in three locations were available—$70 million in Fresno, $35 million in Los Angeles, and $35 million in a third location through a statewide competition. Concept proposals were due in October 2017, and full applications were due December 6, 2017. Six applications were received and they were evaluated based on ability to demonstrate greenhouse gas emissions reductions, benefits to SB 535 and AB 1550 communities, financial feasibility, indicator tracking, selection of avoidance displacement policies, and management and administrative capacity among other topics. The evaluation process included site visits by an interagency review panel. All applicants received support from technical assistance providers to develop their applications.

Already, the SGC’s emphasis on equity and community engagement to fund projects has yielded transformative results. Each application consisted of various, integrated greenhouse gas-reducing projects including transit-oriented affordable housing, active transportation, urban greening, low-income weatherization, low-carbon transit operations, and other unique strategies that provide additional health, environmental, and economic benefits. In Fresno, the components of the application were selected through a participatory process that included 160 residents and community stakeholders. In Los Angeles, the Watts application features 18 integrated projects that include solar installations, hiring local residents to undertake the work, and improving public health outcomes. Through the TCC application process, the City of Ontario presented a proposal with projects identified by the community to build upon existing community strengths and ensure the implementation of long-term solutions. Grant agreements for the three projects are expected to be signed by late spring 2018.
Cap and Trade Expenditure Plan— Local Fire Response: California Fire and Rescue Mutual Aid System

The Governor's Office of Emergency Services (Cal OES) requests $25 million from the Greenhouse Gas Reduction Fund and six positions beginning in Fiscal Year 2018-19 and $1,114,000 Greenhouse Gas Reduction Fund beginning in 2019-20 and ongoing to facilitate greenhouse gas emission reductions through support the California Fire and Rescue Mutual Aid System. Of the 2018-19 amount, $23.8 million is a one-time augmentation to support the fire fleet, which will provide approximately 110 additional fire engines, and $1.2 million will support the six positions, maintenance, and operating costs. In response to the unprecedented fire conditions and a longer wildland fire season, this proposal will enhance the state's ability to deploy resources to emergency response agencies during a wildfire incident. Quick response times can help lessen GHG emissions associated with wildfires.

California continues to be plagued by long durations of drought, seeing only periodic relief, and there is a direct correlation between climate-related issues and the service demands placed on the state. In 2017, California experienced severe winter storms and an unprecedented fire season which extended well into December. This proposal will better equip California to prevent, and respond to, the adverse impacts of climate change on the state, including drought, fire, and various other disasters.

Cal OES administers the California Fire and Rescue Mutual Aid System which is the system by which fire resources are coordinated and deployed to fires and hazard events that require additional support. Cal OES owns and manages the existing fleet, which includes agreements with local fire agencies throughout California to staff the vehicles. Based on a request for the vehicles and in consideration of the needs to support the mutual aid system, Cal OES assigns the fleet to local fire agencies.

California is currently unable to expeditiously meet resource needs within the mutual aid system. During the period of January 1, 2016, through August 23, 2016, 2,505 mutual aid requests for fire engines and other equipment were unable to be filled. This was mostly driven by an increasing complexity in wildfires that have been fueled by drought and an increased use of resources within the mutual aid system. As resources remain on incidents longer and a greater number of resources are necessary, the State experiences significant periods where resource needs cannot be met.

<table>
<thead>
<tr>
<th>Calendar Year Requests Unable to Fill</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
</tr>
<tr>
<td>2,057</td>
</tr>
<tr>
<td>2015</td>
</tr>
<tr>
<td>5,087</td>
</tr>
<tr>
<td>2016*</td>
</tr>
<tr>
<td>3,758</td>
</tr>
<tr>
<td>*Annualized based on 2,505 actual through August 2016</td>
</tr>
</tbody>
</table>

The October 2017 wildfires are estimated to cost $4.4 billion for fire loss, response, watershed, and various recovery efforts. Cal OES requested 225 out-of-state fire engines through the Emergency Management Assistance Compact (EMAC), of which 213 fire engines were received at a cost to the State of $19.5 million. During the December 2017 wildfires in Southern California, Cal OES requested 250 out-of-state fire engines through the EMAC and received 148 fire engines at a cost to the State of $19.8 million. The total estimated cost of fire loss, response, watershed, and various recovery efforts for the December 2017 wildfires is unknown at this time but is expected to be high. This investment would provide needed resources to curb the costs and damages associated with future disaster events.
The California Department of Food and Agriculture requests $104 million from the Greenhouse Gas Reduction Fund (GGRF) to facilitate greenhouse gas (GHG) emission reductions through the implementation of the Dairy Digester Research and Development Program (DDRDP), the Alternative Manure Management Program (AMMP), and the Healthy Soils Program.

**Dairy Programs ($99 Million)**

California leads the nation in milk production. Milk and dairy products are an important protein food source, which also contain key nutrients. However, dairy and livestock operations also emit methane GHGs as a result of animal waste or manure. The DDRDP awards competitive grants to California dairy operations and digester developers for the implementation of dairy digesters that result in methane GHG emission reductions and minimize or mitigate adverse environmental impacts.

The program was established in 2014-15 with $12 million GGRF, which provided grants for 6 projects statewide. In 2016-17, DDRDP was provided $39 million GGRF, which provided grants for 18 projects statewide. Over these two fiscal years, the program received a total of 48 applications, resulting in an oversubscription rate of 200 percent. In 2017-18, DDRDP was provided $73 million GGRF. The Department expects to receive applications for these funds in late February 2018, and projects this funding will provide approximately 34 additional grants. The additional funding of $73 million GGRF requested for 2018-19 will provide approximately 34 additional grants.

The AMMP provides financial assistance for the implementation of non-digester manure management practices on dairy and livestock operations in California that will result in reduced methane GHGs, such as conversions of non-pasture livestock operations to pasture-based management and solid separation in conjunction with solar drying or composting. AMMP was implemented in 2016-17 with a GGRF appropriation of $11 million. The first awards totaling $9.6 million for 17 projects were announced on January 31, 2018. In 2017-18, AMMP was provided $26 million GGRF, and the Department projects this funding will provide approximately 50 additional grants. Similarly, the additional funding of $26 million requested for 2018-19 is expected to provide approximately 50 additional grants.

**Healthy Soils Program ($5 Million)**

California is the nation’s leading agricultural production state in terms of crop production and diversity. Soils are the fundamental medium for crop growth and therefore essential for food production. Ensuring soils are healthy, with adequate levels of carbon, is critical for long-term agriculture sustainability and food security. Soils can capture atmospheric carbon dioxide GHGs emitted from both the agricultural sector and other non-agricultural sectors, and sequester that carbon in soil and woody plant material on agriculture farms and ranches. Soil health also provides many other benefits, such as increased water and nutrient holding capacity, improving drought resiliency, greater microbial diversity and increased soil structure and stability which reduces sediment erosion into surface waters. Soil health programs, as proposed here, are often used as incentive programs in other nations and are designed to ensure food security, agricultural food and economic sustainability and reduction of GHGs.

The Healthy Soils Program was implemented in 2016-17 with $7.5 million GGRF. Application demand outpaced available funding. A total of 86 projects were funded from 96 total applications. An additional $5 million GGRF will fund approximately 50 grants in 2018-19.
Cap and Trade Expenditure Plan—Low Carbon Transportation

Clean Vehicle Rebate Project (CVRP)

The California Air Resources Board (CARB) requests $175 million on an ongoing basis from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of CVRP.

In 2012, the Governor issued Executive Order B-16-12 directing state agencies to accelerate the market for zero-emission vehicles (ZEVs) in California. The Executive Order calls for 1.5 million ZEVs in California by 2025. In 2016, CARB released its Mobile Source Strategy, which lays out a roadmap for complying with GHG targets and federal air quality standards that includes 4.2 million ZEVs by 2030 combined with significant, continued improvements in conventional vehicle efficiency.

The Administration is proposing a new eight-year initiative to accelerate sales of zero-emission vehicles through vehicle rebates and infrastructure investments, and the Governor issued Executive Order B-48-18, setting a new ZEV target of 5 million ZEVs in California by 2030.

This proposal is part of a new ZEV initiative that will provide a total of $2.5 billion over eight years and, when combined with private investment, will meet and exceed the goal of 1.5 million ZEVs on California’s roadways by 2025, and provide a solid foundation for getting to the Governor’s goal of 5 million ZEVs by 2030.

CARB has administered CVRP since 2009-10, a program that provides $5,000 for hydrogen electric, $2,500 for battery electric, and $1,500 for plug-in hybrid electric vehicles, and an additional $2,000 for low income drivers. With these rebates, California’s ZEV market has grown significantly. The number of zero-emission passenger vehicles on the road in California expanded from approximately 25,000 in 2012 to over 350,000 now, more than any other state and about half of all the ZEVs nationwide. Over 40 ZEV models are on the market for California consumers, compared to 5 at the start of 2012, with models now including mini-vans and SUVs. In 2017, ZEVs accounted for about 5 percent of all new car sales in California.

Table 1 shows the annual number of CVRP rebates issued since the program launched in 2010.

<table>
<thead>
<tr>
<th>Year</th>
<th>CVRP Rebates Issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>135</td>
</tr>
<tr>
<td>2011</td>
<td>4,521</td>
</tr>
<tr>
<td>2012</td>
<td>11,219</td>
</tr>
<tr>
<td>2013</td>
<td>29,152</td>
</tr>
<tr>
<td>2014</td>
<td>43,697</td>
</tr>
<tr>
<td>2015</td>
<td>46,541</td>
</tr>
<tr>
<td>2016</td>
<td>44,454</td>
</tr>
<tr>
<td>2017* (Jan-June only)</td>
<td>25,288</td>
</tr>
<tr>
<td>TOTAL</td>
<td>205,007</td>
</tr>
</tbody>
</table>

*Only includes data through June 30, 2017
The ZEV initiative proposes a total of $200 million annually through 2025, which includes $175 million for CVRP and $25 million for additional incentives for low-income consumers, to provide rebates to California residents for the purchase or lease of new light-duty zero-emission vehicles and plug-in hybrids, reflecting the state’s commitment to achieve its ZEV target. As the number of ZEVs purchased increases over time, CARB will revise the program’s income eligibility requirements to target moderate and low-income consumers that are most influenced by the availability of the rebates.

This proposal builds on actions that have been initiated in recent years, in which CARB has refined CVRP as directed by the Legislature to increase participation by low-income consumers and more effectively target these incentives. Low-income applicants receive higher rebates, and consumers at higher income levels are excluded from the program. To make it easier to access CVRP, CARB is developing a pre-qualification mechanism to bring the CVRP rebate closer to the point of sale. This will launch at pilot scale in San Diego in early 2018 and then be expanded statewide. CARB has also expanded outreach with a disadvantaged community focus.

The success of this project is reliant on time and resource intensive efforts to increase consumer awareness about advanced clean technologies. Although the ZEV market continues to grow, it has not progressed enough to be self-sustaining, and therefore, continued funding is necessary.
Cap and Trade Expenditure Plan—Low Carbon Transportation

Transportation Equity Investments

CARB requests $100 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of Transportation Equity Investments.

Since FY 2014-15, CARB has invested in pilot projects that explore innovative strategies for introducing advanced clean transportation into California’s disadvantaged communities and helping low-income consumers overcome barriers to clean, reliable transportation. These investments support the ZEV Action Plan and the goals of SB 1275 (De León, Chapter 530, Statutes of 2014), and SB 350 (De León, Chapter 547, Statutes of 2015) to increase access to clean vehicles and mobility options in disadvantaged communities and low-income households.

CARB’s transportation equity-focus investments have increased each year, from $9 million in FY 2014-15 to $100 million in FY 2017-18. Continued funding in FY 2018-19 will expand existing projects on a statewide basis and will support promising new project ideas that will be developed through an extensive public input process. These include:

- Enhanced Fleet Modernization Program (EFMP) Plus-up/Clean Cars 4 All: Provides incentives for lower-income consumers living in and near disadvantaged communities who scrap their old vehicles and purchase used or new hybrid, plug-in hybrid, or zero-emission vehicles.

- Financing Assistance: Improves the affordability of used or new clean vehicles for lower-income consumers statewide by providing low cost loans and vehicle price buy down assistance.

- Clean Mobility Options (including car sharing and agricultural vanpools): Helps disadvantaged communities statewide benefit from the use of automobiles without the responsibility of car ownership costs through the shared use of zero-emission and plug-in hybrid vehicles, clean technology vanpools, and other mobility options.

- Rural School Bus: Assists California’s school bus fleets turnover to cleaner, safer lower-carbon and zero-emission transportation choices.

- CVRP Rebates for Low-Income Consumers: Prioritizes rebate payments to low-income consumers statewide who purchase or lease advanced clean technology vehicles, as required by SB 859. This component is part of the Administration’s ZEV initiative. (See Clean Vehicle Rebate Project write-up.)

The success of each of these projects is reliant on time and resource intensive efforts to build partnerships with community-based organizations, tailor project design and outreach to specific neighborhood needs, and provide personal interaction with participants.
Cap and Trade Expenditure Plan—Low Carbon Transportation

**Advanced Heavy-Duty Vehicles and Off-Road Equipment Incentives**

CARB requests $160 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of Advanced Heavy-Duty Vehicle and Off-Road Equipment Incentives.

These funds would continue investments since FY 2013-14 to meet demand, including projects that provide incentives for near- and zero-emission trucks and buses (including transit, shuttle, and school buses) and sustainable freight technology, with an emphasis on projects that are located within and benefit residents of SB 535 and AB 1550 communities.

These investments would accelerate the transition to low carbon freight and passenger transportation, supporting the Governor’s climate change strategy pillar of a 50 percent reduction in petroleum use in vehicles by 2030 and the Governor’s goal to deploy 1.5 million zero emission vehicles (ZEVs) in California by 2025 and 5 million ZEVs by 2030 as announced in the 2018 State of the State address. These investments support the emission reduction goals identified in the *Climate Change Scoping Plan, State Implementation Plan, California Sustainable Freight Action Plan,* and *ZEV Action Plan.* These incentives provide important early steps to transform the transportation sector to zero-emission and near zero-emission technologies. This proposed funding is also consistent with the Administration’s *Cap-and-Trade Auction Proceeds Second Investment Plan: Fiscal Years 2016-17 through 2018-19* which identifies zero-emission passenger transportation and low carbon freight transport as investment priorities.

This proposal builds on funding provided in 2017-18; $140 million for the Freight Equipment Advanced Demonstration and Pilot Commercial Deployment Project and $180 million for the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project. When this proposal is combined with 2017-18 funding, approximately $450 million will be available for these programs over a two-year period.

This proposal also includes $26 million for the Carl Moyer Program, which will offset the redirection of tire fee revenue to support the Department of Fish and Wildlife.
Cap and Trade Expenditure Plan—Low Carbon Transportation

*Agricultural Replacement Measures for Emission Reductions (FARMER) Program.*

CARB requests $102 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program.

This request builds on the FY 2017-18 Budget appropriation of $135 million (including $85 million from the Greenhouse Gas Reduction Fund) to reduce agricultural sector emissions by providing grants, rebates, and other financial incentives for agricultural harvesting equipment, heavy-duty trucks, agricultural pump engines, tractors, and other equipment used in agricultural operations.

Funding for agricultural sector emission reductions supports several of the Legislature’s priorities for investing Cap-and-Trade auction proceeds, expressed in Health and Safety Code section 38590.1(a), including: air toxic and criteria air pollutants from stationary and mobile sources; low- and zero-carbon transportation alternatives; sustainable agricultural practices that promote the transitions to clean technology, water efficiency, and improved air quality; and short-lived climate pollutants. This proposed funding is also consistent with the Administration’s *Cap-and-Trade Auction Proceeds Second Investment Plan: Fiscal Years 2016-17 through 2018-19* which identifies as an investment concept support for demonstration, pilot, and deployment of zero and near zero-emission heavy duty trucks and agricultural equipment, among others.

CARB is in the process of developing the FARMER Program to implement the FY 2017-18 appropriation with funding directed to local air districts for agricultural truck and equipment replacement projects. For the first year, CARB is patterning the FARMER Program after existing incentive programs to expedite implementation. Funding would be available for agricultural vehicle and equipment replacement projects eligible under the Carl Moyer Program as well as zero-emission agricultural utility terrain vehicles and off-road agricultural equipment trade-ups in the San Joaquin Valley, both of which were piloted under the Air Quality Improvement Program. CARB anticipates entering into grants with the local air districts to administer the FARMER Program funds in late spring, with funds rolling out to projects as early as the summer of 2018.

CARB would use the proposed FY 2018-19 funding to expand the FARMER Program and potentially add eligible project types, such as demonstration or pilots of advanced technology agricultural equipment. CARB would direct over half the funding to projects located in and benefiting disadvantaged communities, low-income communities, and low-income households to help the State meet its overall SB 535 and AB 1550 investment targets.
Cap and Trade Expenditure Plan—Low Carbon Transportation

Low Carbon Fuel Production Program

The Energy Commission requests $25 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of a Low Carbon Fuel Production Program.

The Low Carbon Fuel Production Program provides incentives for the in-state production of low-carbon vehicle fuels throughout the state, including gasoline substitutes such as ethanol; diesel substitutes such as biodiesel and renewable diesel; and gaseous fuels such as biomethane. This funding will augment $19.4 million in fiscal year 2017-18 funding allocated to alternative fuel production as part of the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP), authorized by Chapter 750, Statutes of 2007 (AB 118) and Chapter 401, Statutes of 2013 (AB 8). Since 2009, this program has awarded $168.1 million in funding to 60 projects.

The Energy Commission plans to hold at least one public workshop in early 2018 to discuss program design alternatives with affected stakeholders. The Energy Commission expects to release a competitive grant solicitation for the development of commercial-scale renewable fuel production facilities in late 2018.

California’s on-road transportation sector accounts for approximately 34 percent of the state’s greenhouse gas (GHG) emissions. In order to achieve the state’s climate change and clean air goals, the transportation sector must transition from petroleum-based fuels to low carbon, low emission fuels. The Energy Commission anticipates the $25 million in Greenhouse Gas Reduction Fund (GGRF) funding will incentivize approximately 75 – 100 million additional gallons per year of in-state low carbon fuel production through the construction of new and expansion of existing facilities, providing immediate, high-volume effects on California’s fuel markets. These types of projects produce fuels that result in up to 165 percent lower carbon emissions compared to petroleum-based diesel and gasoline. The requested GGRF funding will help address expected solicitation oversubscription (based on historical demand) and expansion of the program to include other low carbon fuels, such as renewable hydrogen that will advance various goals such as the Zero-Emission Vehicle (ZEV) Action Plan and Chapter 877, Statutes of 2006 (SB 1505).

While the fuel produced is expected to be utilized statewide, low carbon fuel production facilities are typically located in disadvantaged, economically distressed, and/or rural communities, and provide economic and job benefits to those regions. Currently, the majority of low carbon fuels used in California are imported from other states or internationally. The installation of low carbon fuel production facilities will provide Californians with more direct and potentially reliable and cost-effective options for renewable, alternative fuels.

Although other government programs exist to financially support the production of low carbon fuels, including the state’s Low Carbon Fuel Standard (LCFS) and the federal Renewable Fuel Standard (RFS) and tax credit programs, issues of revenue and regulatory uncertainty have detracted private investment. These post-construction incentives do not address the high capital cost of these projects, nor do they specifically target California business. Low carbon fuel projects are also suffering recent cut-backs on the RFS volume obligations. The incentives provided through the Low Carbon Fuel Production Program will support the objectives of the LCFS and RFS.
AB 617 Community Air Protection

CARB requests $250 million from the Greenhouse Gas Reduction Fund to fund the Community Air Protection Program for projects that reduce emissions and improve public health in communities most heavily impacted by air pollution, consistent with Chapter 136, Statutes of 2017 (AB 617).

CARB requests continuation and broadening of an incentive program established in Chapter 254, Statutes of 2017 (AB 134), which allocated $250 million to Community Air Protection programs for incentive projects to reduce air pollution and improve public health in the communities most burdened by air pollution. AB 134 further directed the FY2017-18 funds to air districts through grant agreements under the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program), for early actions to support timely and effective emission reductions in communities like those being designated through AB 617 (H&S C § 44391.2).

CARB requests FY2018-19 funds for a broader incentive program that can address the full variety of emissions reduction needs identified through AB 617.

Having begun development of AB 617 monitoring and action plans and conducted community outreach, CARB can now direct funding for incentive projects to achieve the reduction of criteria and toxic emissions that are essential to improving public health in the communities most affected by and vulnerable to air pollution. These funds will be available immediately to assist these communities and AB 617 directs CARB to identify communities by October 2018.

This new incentive program will provide both the funds and the administration for addressing the specific needs identified through the AB 617 public process. The program may include projects to improve local air quality through incentives to reduce emissions from mobile and stationary sources, as well as green infrastructure and other projects that reduce vehicle miles traveled and provide co-benefits for local residents. The projects will build on existing efforts to improve air quality, and will focus investments in low-income and disadvantaged communities. In addition to reducing emissions and exposure to air pollution in California’s most burdened communities many of the projects are expected to help improve regional air quality by reducing emissions of pollutants that cause or contribute to ozone and air-borne particulates.
AB 617 Community Assistance and Innovative Resource Grants Program.

CARB requests $5 million from the Greenhouse Gas Reduction Fund to continue the AB 617 Community Assistance and Innovative Resource (CAIR) Grants Program.

AB 134 appropriated $5 million to implement Health and Safety Code section 44391.2 (d), which requires CARB to provide technical assistance grants to communities to participate in the AB 617 process. To carry out this directive, CARB created the CAIR Grants Program. The CAIR Grants Program provides opportunities for community-based organizations to participate in the AB 617 process and to build their own capacities to become active partners with government. The goal of the CAIR Grants Program is to support community efforts to participate with government to identify, evaluate, and reduce exposure to air toxics and criteria air pollutants.

Eligible expenditures include, but are not limited to:

- Community engagement and outreach-related to AB 617.
- Community training on AB 617 concepts.
- Travel and logistical support for hosting or attending meetings related to AB 617 (i.e., room rental, meeting facilitation, transportation).
- Hiring consultants or technical experts.
- Air monitoring support.

Eligible entities may include: community-based 501(c)(3) groups, recognized tribal entities, and faith-based organizations with proposed projects exclusively for the purposes of AB 617 community participation. FY 17/18 grant awards will be announced by summer 2018. CARB anticipates a diverse mix of projects from many communities, with regional representation from across the State. The selected project portfolio is anticipated to include urban, suburban, and rural settings with an emphasis on disadvantaged and low-income communities.

Initial outreach, consisting of stakeholder phone calls, informational meetings, and over 50 individual events through January 2018, has indicated that oversubscription to these grants is likely. CARB intends to fund as many viable community projects as is possible with the CAIR Grants Program. However, demand for assistance beyond what is currently appropriated is anticipated.
The Department of Forestry and Fire Protection (CAL FIRE) requests $160 million from the Greenhouse Gas Reduction Fund (GGRF) and 19 positions to facilitate greenhouse gas emission reductions through the implementation of its forest health programs.

Climate change is ushering in extreme weather and a fire season that has become essentially year-round, with larger and more intense fires. In 2017, CAL FIRE battled multiple large and deadly wildfires in several counties in Northern California in October, and then again in Southern California virtually the entire month of December and extending into 2018. These fires were intensified by critically dry conditions that are likely to worsen in coming years.

This proposal builds upon $195 million GGRF provided in 2017-18 for forest health and resiliency. Projects across the state will focus on the largest direct benefit for forest resilience and co-benefits, such as protection of carbon, water, wildlife habitat, communities, and rural economic stability. The requested funding will be for comprehensive forest health programs that will reduce emissions from wildfires and tree mortality and increase carbon stored in living trees in order to maintain California’s forests as net sinks of carbon and meet the 2030 carbon goals within Executive Order B-30-15.

CAL FIRE manages a comprehensive suite of sustainable forestry programs focused on management practices that maintain overall forest health while increasing carbon sequestration and decreasing potential carbon loss to wildfire. CAL FIRE will use the $160 million GGRF to build healthy and fire resilient forests through a variety of fuels treatment and public awareness efforts. These include, but are not limited to, tree thinning, reforestation, forest insect and disease mitigations, increasing carbon sequestration in living trees, and forest resilience activities, such as conservation easements and those resulting in improved ecological outcome projects, restoring watershed health and function, and supporting biodiversity and wildlife adaptation to climate change.

Funds will also be spent on programs and projects that improve forest health and reduce greenhouse gas emissions caused by uncontrolled wildfires, including, but not limited to, vegetation management, density control, and biomass energy generation and wood products manufacturing. In addition, funds will be used for inspections by CAL FIRE and local fire departments for compliance with defensible space requirements around habitable structures in the State Responsibility Area and public education efforts to reduce fire risk in areas throughout the state.

All projects will be required to show a quantifiable and defensible greenhouse gas emission reduction and/or carbon sequestration increase. CAL FIRE will target investments in areas where climate change mitigation and adaptation opportunities exist, threats are high, and sound forestry practices are feasible. Projects may have a biomass component.

Of the amount requested, at least $5 million will be provided to the California Conservation Corps (CCC) for fire prevention projects and activities in, or adjacent to, the State Responsibility Area. The CCC will coordinate a number of tent camps and complete work activities including, but not be limited to (1) planting one or two-year old seedlings, (2) removing competing vegetation from within five feet of each seedling, (3) cutting dead trees and brush and piling all material for future burning, and (4) thinning smaller trees within older live stands.
Cap and Trade Expenditure Plan—Energy Corps

The California Conservation Corps (CCC) requests $6 million from the Greenhouse Gas Reduction Fund (GGRF) and 27 permanent staff positions in 2018-19 to facilitate greenhouse gas emission reductions through the continuation of its Energy Corps Program.

In 2017-18, the Energy Corps program was funded with $5.7 million from Proposition 39 funds (Clean Energy Jobs Act), which expires in 2018-19.

The Energy Corps Program will help the state (1) meet its greenhouse gas emissions reduction targets (approximately 1,539 Metric Tons of CO2 saved annually), (2) reduce energy consumption (approximately 6.473 million kWh annually), (3) reduce water consumption and related costs, (4) reduce energy costs (more than $1.145 million saved annually), (5) provide professional training and extensive energy industry work experience for about 100 young adult corpsmembers located throughout the state, who perform energy and water conservation project work, and (6) provide pathways to energy industry employment. CCC’s Energy Corps Program will reduce greenhouse gas emissions from public buildings located throughout California (at least 50 percent of these public buildings will be located in SB 535 and AB 1550 communities).

To achieve these targets, Energy Corps staff and corpsmembers will perform energy efficiency and water conservation surveys (Audits). Additionally, for sponsors who hire the CCC and purchase the necessary materials, corpsmembers will install proven energy efficiency and water conservation measures, including, but not limited to, lighting replacements with Light-Emitting Diode (LED) lamps and Compact Fluorescent Lamps (CFL), thermostats and lighting controls, delamping, weather stripping and seals, window tinting, irrigation system controls, and low flow faucet aerators and shower heads. The Energy Corps will conduct energy efficiency and water conservation education and outreach to facilities managers (providing operational 'Best Practices' guides, information about available local utility incentive programs and rebates, job opportunities, etc.). The Energy Corps will also schedule and perform more complex and labor-intensive energy efficiency and water conservation retrofit projects (e.g., lighting fixture replacements, lighting controls and sensors, hot water heaters, irrigation controls, etc.).

Using the GGRF to support the Energy Corps Program’s greenhouse gas emissions reduction efforts will continue the state’s investments in the CCC’s ongoing energy and water efficiency programs. These programs have created hands-on work experience and training opportunities that are directly connected to the energy efficiency industry and align with prerequisites for energy efficiency jobs.
The Energy Commission requests $34 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of an Agricultural Energy Efficiency Program: the Food Production Investment Program (FPIP). This funding will augment $60 million previously authorized by Chapter 249, Statutes of 2017 (AB 109).

The FPIP provides funding for solutions to reduce greenhouse gas (GHG) emissions and other air pollutants, reduce energy costs and increase efficiency in the food processing industry. The food and beverage processing industry is a vital part of the California economy, contributing $82 billion to California’s economy in 2012, and is a major employer in several central valley communities. Food processing emitted 3.327 million metric tons of carbon dioxide equivalent, approximately 3 percent of industrial emissions and 0.7 percent of the state’s total emissions in 2015.

Funding will support the adoption of technologies such as advanced boilers, economizers, refrigeration, cooking equipment, pumps, motors, and fans present in food processing plants, as well as renewable energy measures such as solar thermal and biogas that can reduce dependence on natural gas. The program aims to ensure funded technologies are reliable, have potential for mass adoption and help contribute to meeting the state’s mid and long term energy efficiency and GHG reduction goals. These technologies also can provide co-benefits, including improved air quality in low-income and disadvantaged communities. The focus of this program was informed by the efforts of the California Food Processors Task Force, which includes industry stakeholders, utility representatives, and state agencies. The goal of the task force is to identify measures and share expertise to help make a low carbon food processing industry a reality.

Guidelines for this grant program are expected to be completed in spring 2018, with the grant process beginning in the summer.
Cap and Trade Expenditure Plan—Agricultural Renewable Energy Program

The Energy Commission requests $4 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of a Renewable Energy Program: a program to incentivize the installation of renewable energy resources at agricultural operations in disadvantaged communities throughout the state. This funding will augment $6 million previously authorized by Chapter 249, Statutes of 2017 (AB 109).

The agricultural sector is a vital part of the economy for many California communities, including many disadvantaged and low-income communities. However, California’s agricultural sector is facing greater competition from other states and internationally, making it difficult for the sector to make investments in technologies and processes needed to reduce GHG emissions.

The Energy Commission is developing a program targeted to one of the state’s sectors that still has a need to identify and overcome barriers for expanded installation of renewables: agricultural operations. The program will target operations in the state’s low-income and disadvantaged communities, which are at even greater need for financial support to fully realize the benefits of clean energy resources being experienced in other communities.

One area that offers GHG reduction opportunity is integration of on-site renewable energy generation to provide needed electricity for operations and reduce demand for grid energy. The installation of onsite renewable energy offers agricultural operations the benefit of reduced demand for grid electricity, providing direct long term cost savings and other co-benefits. The program will help agricultural operations reduce the upfront capital needed to install distributed renewable generation and improve the payback time for system installation.

The Energy Commission plans to hold at least one public workshop in early 2018 to discuss program design alternatives with affected stakeholders and a second round of workshops will be held in mid-2018 on draft program guidelines with the potential adoption of those guidelines in the third quarter of 2018. Once guidelines are adopted at an Energy Commission Business Meeting, the Energy Commission will release either competitive grant solicitations or incentive guidelines and begin awarding grants later in 2018.
The Department of Resources Recycling and Recovery (CalRecycle) requests $20 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas emission reductions through the implementation of financial incentives for waste diversion.

CalRecycle is requesting funding to continue providing financial incentives for infrastructure facilities and food rescue programs that divert waste from landfills and reduce GHG emissions. Projects include composting, anaerobic digestion, and fiber, plastic, and glass recycling facilities as well as programs that recover edible food for disadvantaged and low-income communities. In addition to state climate goals, these investments further short-lived climate goals, pursuant to Chapter 395, Statutes of 2016 (SB 1383), and waste reduction goals, pursuant to Chapter 476, Statutes of 2011 (AB 341).

CalRecycle offers this funding to assist public and private entities in the safe and effective management of the waste stream. Investments support financial incentives for capital investments in composting/anaerobic digestion infrastructure, recycling manufacturing facilities, and food rescue programs that divert waste from landfills. The program is comprised of four subprograms: Organics and Recycling Manufacturing Loans, Organics Grants, Recycling Manufacturing Grants, and a new Food Waste Prevention and Rescue Grants subprogram. Co-benefits of the funding include job creation and job training programs for residents of disadvantaged and low-income communities; air and water quality improvements through reduced truck route and reduced VOC and NH3 emissions; diverting waste from landfill located in disadvantaged community; increasing food access to residents of disadvantaged and low-income communities.

By the end of 2017, CalRecycle had awarded a total of $63.3 million in 54 grants and loans, which have resulted in establishing new composting, anaerobic digestion and recycling manufacturing facilities that are expected to reduce GHG emissions. Estimates suggest these would divert 5.5 million tons over the lifetime of the projects. Also, in January, CalRecycle awarded $9.4 million to 31 applicants for new food waste prevention and rescue projects. In total, CalRecycle has had a total of 184 applicants requesting $337.9 million in grant funds.

Examples of three infrastructure projects are described below:

- The CR&R Environmental Services’ Anaerobic Digester (AD) Facility Expansion Project consists of an 83,000 ton per year addition to CR&R's AD facility that is under construction at the Perris Material Recovery Facility and Transfer Station. This addition will double the plant’s processing capacity, enabling landfill diversion of an additional 229 tons of mixed municipal organics per day. This project will produce renewable natural gas transportation fuel and soil amendments. The total amount of organic material diverted from landfill for the 11-year projection is 822,000 tons reducing the greenhouse gas emissions by 483,000 MTC02e.

- Mid Valley Disposal, Inc. constructed a brand-new GORE® covered aerated static pile composting operation at its existing material recovery facility and transfer station in Kerman. The applicant will separate food and green materials from its existing collection routes in Fresno County and nearby communities, and produce compost using a process approved by the San Joaquin Valley Air Pollution Control District for VOC reductions. The total amount of organic material diverted from landfill for the 11-year projection is 290,000 tons reducing the greenhouse gas emissions by 137,000 MTC02e.

- Command Packaging is a Los Angeles area manufacturer of reusable plastic carry-out bags made for the retail, restaurant and grocery industries. Encore Recycling collects, cleans, and converts agricultural film plastic into feedstock that Command Packaging uses to produce reusable bags. The yearly capacity of Command Packaging is equivalent to approximately 550 million reusable bags. The grant funds allowed Command to upgrade its facility from one-layer to three-layer extrusion equipment in order to increase the post-consumer recycled content of reusable bags to 20% and manufacture a higher quality product capable of 125 reuses over its lifetime. The total amount of agricultural film plastic material diverted from landfill for the 11-year projection is 314,000 tons, reducing the greenhouse gas emissions by 273,000 MTC02e.
The Office of Planning and Research and the Strategic Growth Council requests $35 million from the Greenhouse Gas Reduction Fund to facilitate greenhouse gas (GHG) emission reductions through the implementation of the California Climate Change Technology and Solutions Initiative. The State's 2015 Climate Change Research Plan identified research priorities in climate change modeling and analysis, GHG emission reduction, and adaptation and resilience. This proposal will support these priorities by funding research to (1) advance the deployment of transformative technologies to reduce GHG emissions, (2) prepare for a changing climate, (3) integrate social and equity dimensions into climate policies and new technologies and (4) support the development of advanced climate data partnerships and initiatives. Additionally, this funding may also support research focused on climate policy impacts on California's economy, including labor market analysis, economic modeling, and case studies on just transition to assist in easing the transition of workers and communities impacted by economic disruption.

Current Climate Change Research Program
With $11 million from the Greenhouse Gas Reduction Fund, the current Climate Change Research Program is investing in crosscutting topics that fill in the gaps in current state research programs. The Program prioritizes funding research that protects vulnerable communities from the impacts of climate change; supports and accelerates the transition to climate smart communities; integrates land management and conservation into climate change programs; and increases data accessibility for state, regional, and local planning for climate change.

While these investments fill an important research gap, more is needed. Meeting California's emission goals requires innovation and investment in the State's energy, transportation, and community infrastructure to zero- and low-carbon technologies that are scalable and replicable in jurisdictions across the world. An increase in funds will provide funding to support research, development, and deployment of promising low-GHG transformative technologies. Investments will prioritize investments in technologies and policy and financial tools that show the most promise to achieve significant GHG emission reductions through widespread deployment over the next two decades.

Goals for the California Climate Change Technology and Solutions Initiative
The Initiative will be an evolution of the existing Research Program. These investments in the development and deployment of new technology will complement the equity, economic, land use and urban development, and natural systems principles and strategies prioritized in the first year of the Research Program. A comprehensive and successful investment strategy will continue to prioritize the following goals:

- Accelerate and broaden the deployment and commercialization of promising low-carbon technologies, tools, and approaches.
- Support the design and implementation of policies, programs, and investments to build resilience in California's communities, infrastructure, and natural systems in the face of a changing climate.
- Ensure solutions are equitable, with particular attention to the needs and solutions appropriate to low-income and disadvantaged communities.
- Understand the current condition of Earth's natural systems and the pace and scale of change to better manage the State's natural and working lands to maximize carbon storage and inform flexible approaches to adaptation efforts.
- More completely evaluate and understand the public policy, economic, health, and social dimensions of climate change policies.

Funding for new technology will position California as a world leader in low-GHG transformative technologies. New technology is essential to meet the State's climate objectives and will be a major contributor to California's economic competitiveness and job growth agenda.