California Emerging Technology Fund
Comments on the Cap-and-Trade Auction Proceeds
Draft Third Investment Plan:
Fiscal years 2019-20 through 2021-22

Introduction

The California Emerging Technology Fund (CETF) appreciates this opportunity to submit Comments on the Draft Third Investment Plan for the Cap-and-Trade Auction Proceeds. CETF commends the California Air Resources Board (CARB) for leadership in reducing greenhouse gas (GHG) emissions to meet the State of California's adopted goals. CETF also salutes CARB for acknowledging the importance of access to broadband (a generic term for high-speed Internet service that includes both wireline and wireless technologies) to assist the State in meeting the GHG emission targets and climate change goals. Further, State law on climate change and CARB prioritize disadvantaged communities and low-income households which also are the priority populations for closing the Digital Divide.

For example: (1) The *2014 Climate Change Scoping Plan (Building on the Framework Pursuant to AB32)* references broadband in two success stories to reduce GHG emissions: telehealth on Page 47; and energy efficiencies and agriculture on Page 58. (2) The *Low-Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low-Income Residents (Final Guidance Document dated February 21, 2018)* lists broadband on Page 31 as one of three "awareness barrier" identified through CARB's public process: "Low-income communities in remote areas of the State may lack access to broadband Internet service, leaving residents unable to access information on clean vehicles and consumer incentives, regional maps of public charging stations, information on public transportation, and websites for coordinating car sharing and commuter vanpools." The document further states: "CARB agrees that additional opportunities must be undertaken to expand outreach and education for residents in these communities." (3) The information slides presented at the Public Workshop in Fresno on September 4, 2018 highlighted the need for climate investments to address the needs of disadvantaged communities with tangible public benefits that result in community transformation. Taken together, these CARB findings and commitments establish an imperative to close the Digital Divide for the most disadvantaged residents through the Investment Plan.

Attached is a publication previously submitted to CARB that explains why and how "broadband is a green strategy" for the State in addressing several inter-related challenges (*Can the Internet Help Save the Environment?* YES). This testimony explains how closing the Digital Divide and promoting Digital Inclusion supports and aligns with the priorities in the Draft Third Investment Plan and, therefore, should be recognized as a California Climate Investment Program in the final adopted Investment Plan for Fiscal Years 2019-2020 through 2021-2022.

Fortunately, the Cap-and-Trade Auction Proceeds Draft Third Investment Plan: Fiscal Years 2019-20 through 2021-2022, Executive Summary (Page ES-1) provides the foundation and rationale for incorporating and optimizing Digital Inclusion:

> *"Californians and our communities need transformative investments now. With potentially billions more in Cap-and-Trade auction proceeds available in the coming years, these incentives must be used deliberately to meet our ambitions 2030 ad 2050 climate targets while spurring economic, equity, community, and environmental advancement. These investment programs, coupled with community leadership and leverage with additional support, can, and must accomplish more."*
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> *"First, the incentives provided by California Climate Investments allow individuals, agencies, businesses, and communities to continue to envision and develop a low-carbon, safe, accessible California. Second, these funds and the Climate Investments program can produce even greater GHG emission reductions and other benefits. California Climate Investments programs can improve air quality, fund research needed to further reduce GHG emissions, support jobs that are needed for disadvantaged and low-income communities to transition to a low-carbon future, and prepare for climate change by creating more resilient communities, infrastructure, and natural lands. Third, we know that disadvantaged and low-income communities are disproportionately burdened by climate change. These same communities tend to face greater barriers in accessing these funds and successfully implementing projects. To reach all Californians, we must improve funding equity and provide more investment benefits to these communities."*

In addition, the Legislature and Governor enacted the Internet For All Now Act of 2017 (AB1665) authored by Assemblymember and CARB Board Member Eduardo Garcia which finds and declares the following to support incorporation of Digital Inclusion in the Investment Plan:

> *(1) The availability of high-speed Internet access, referred to generically as "broadband" and including both wired and wireless technologies, is essential 21st century infrastructure for economic competitiveness and quality of life. Economic studies confirm that the use of broadband technologies increases economic productivity as a foundation for increased efficiency in organizational operations and enhanced profitability in business.*
> *(2) Broadband infrastructure is also vital to the operation and management of other critical infrastructure, such as energy generation systems and the electrical grid, water supply systems, and public safety and emergency response networks. There is a need for world-class broadband infrastructure throughout California to support these major infrastructure investments, and thereby to protect lives, property, and the environment.*
> *It is the intent of the Legislature that California be a national leader and globally competitive in the deployment and adoption of broadband technology and in implementing quality universal access for all residents.*

The following Comments are organized in 3 sections to explain and describe the rationale and opportunity to link the Cap-and-Trade Third Investment Plan to Digital Inclusion:

- Shared Focus on Disadvantaged Communities and Low-Income Households
- Alignment of Investment Priorities with Digital Inclusion Strategies
- Recommendations to Address Multiple State Goals and Leverage Resources

Shared Focus on Disadvantaged Communities and Low-Income Households

The focus for the Greenhouse Gas Reduction Fund (GGRF) on disadvantaged communities and low-income households are the same priorities for closing the Digital Divide as set forth by the Legislature and Administration, California Public Utilities Commission (CPUC), CETF, Broadband Regional Consortia, and Digital Inclusion community-based organizations (CBOs) throughout California. According to the 2017 Statewide Survey on Broadband Adoption sponsored by CETF and conducted by the University of California, Berkeley Institute of Government Studies (IGS), 31% of California households are "digitally disadvantaged": 13% are unconnected with no home high-speed Internet service and 18% are underconnected with only a smartphone (which limits the ability of students to achieve excellence in education and inhibits the opportunities for adults to acquire workforce skills)—see attached CETF Decade Report on Pages 12-13. These 31% of Californians live in the same rural communities and urban low-income neighborhoods that have been recognized by California Environmental Protection Agency (CalEPA) and identified by CalEnviroScreen as priorities for GGRF (SB535, DeLeon).
Page 12-13 Decade Report. A closer look at the research data shows more inequity in that it is the most disadvantaged residents who are unconnected and undersconnected.

The Most Disadvantaged Residents Are Unconnected and Underconnected

Segment of the Population (2017 Statewide Survey)	Connected at Home	Smartphone Only	Not Connected at Home
Statewide	87%	18%	13%
Earning Less Than $20,000 Annually	75%	27%	25%
Spanish-Speakers	70%	38%	30%
People with Disabilities	75%	15%	25%
Adults Age 65 or Older (Seniors)	69%	9%	31%
Non-High School Graduates	67%	28%	33%

Further, there is a growing percentage of the population (more than 98% today) who say they want to be online, including aging residents who realize that if they develop a chronic health condition that Internet access will enable them to remain in their home through telemedicine.

This data quantifying the magnitude of the Digital Divide are compelling evidence to embrace Digital Inclusion to fulfill the quest for equity through the Investment Plan. CARB graphically explained the difference between "equality" and "equity" and eloquently set forth a commitment to achieve equity. However, the unconnected and underconnected residents will continue to be disadvantaged in contributing to and benefiting from GGRF investments without an intentional commitment and intensified focus on Digital Inclusion in the Investment Plan. Getting online all residents is essentially axiomatic to achieving the GHG emission goals: there is a shared focus on disadvantaged communities and low-income households.

Alignment of Investment Priorities with Digital Inclusion Strategies

The Draft Third Investment Plan for the Cap-and-Trade Auction Proceeds and GGRF investment priorities align with Digital Inclusion strategies, as indicated below by an asterisk. For example:

- Transportation: To reduce congestion and improve mobility, the best trip is a "virtual trip" because it has no direct impact on the environment and clearly is low carbon systemically. Internet connectivity between rural and urban medically-underserved communities and medical centers enables telehealth-telemedicine, reducing trips for outpatient follow-up visits by as much as 40%. High-speed Internet connectivity is essential for online college courses and to support long-distance learning, which is especially vital for disadvantaged communities and low-income households who have fewer resources to access education and workforce training. Thus, having all communities connected with high-speed Internet infrastructure advances the investment priorities for transportation.
- Energy: To improve energy efficiency the State and energy utilities promote peek demand management through load dispatch in the built environment, which requires Internet connectivity. However, unconnected and underconnected low-income households are not able to participate in such energy efficiency programs, incentives or rebates. Less than half of low-income households signed up for the CARE programs administered by investor-owned utilities (IOUs) have email addresses and are not able to receive information about energy efficiency programs or pay bills online, often requiring trips to the utility to pay bills with cash. Sacramento Municipal Utility District has fully embraced the concept of getting all of their low-income customers online and has worked with CETF and the California Foundation for Independent Living Centers to reach out to their CARE customers. San Diego Gas and Electric Company and Southern California Gas have cooperated with pilot projects. But, generally, the IOUs have been reluctant to fully embrace this strategy and need encouragement from the CPUC (and their Low Income Oversight Board) and CARB.
- Natural Resources: To optimize management of natural resources, particularly water use, Internet connectivity is required infrastructure. Unconnected and underconnected rural communities and low-income urban neighborhoods cannot participate in water-use efficiency programs managed with information or controls dependent on the Internet.
- Agriculture: To optimize resource use and maximize production for agriculture, emerging "AgTech" requires sensors in the fields with a wireless signal. AgTech holds much promise for conserving water, determining fertilizer needs, increasing crop production, and accessing external markets. Further, many agricultural communities also are disadvantaged communities with high percentages of low-income households. However, most of California's very productive farmlands are not connected to a high-speed Internet network.
- Resiliency: To protect public safety, facilitate quicker recoveries from natural disasters and other emergencies, and support increased resiliency of vulnerable communities and fragile population segments, high-speed Internet networks are required throughout the state. The majority of county fairgrounds (State assets) used for staging emergency responses and evacuations have no permanent high-speed connectivity. Research, communication networks, and data analyses that could better inform fighting wildfires (which cause huge amounts of GHG and other air pollutant emissions) cannot be applied because of the lack of connectivity. And, employers (particularly small businesses) and fragile communities cannot quickly recover because of the lack of ubiquitous broadband.

All of these challenges can be better addressed if there was high-speed Internet infrastructure throughout California, particularly for disadvantaged communities and low-income households. Fortunately, the Draft Third Investment Plan and GGRF priorities and strategies constitute a solid foundation and provide a rational framework to accelerate progress in closing the Digital Divide by aligning resources and "connecting the dots" among State programs. The following indicates opportunities for alignment of Digital Inclusion strategies with GGRF priorities.

**Alignment with Digital Inclusion Strategies*

AB 1532 Original Investment Priorities

1. Energy Efficiency and Renewable Energy*
2. Low Carbon Transportation, Freight, and Advanced Technology Vehicles and Fuels*
3. Natural Resources: Water Use and Supply, Land Conservation, Forestry, and Sustainable Agriculture*
4. Strategic Planning
5. Waste Diversion, Reduction, and Reuse
6. Research, Development, and Deployment of Innovative Technologies and Practices
7. Partnerships for Local and Regional Program Implementation*

AB 398 Priorities for Funding:

1. Air Toxics and Criteria Pollutants
2. Low and Zero Carbon Transportation*
3. Sustainable Agriculture Practices*
4. Health Forests and Urban Greening
5. Short-Lived Climate Pollutants
6. Climate Adaptation and Resiliency
7. Climate and Clean Energy Research

The above alignment of priorities is further supported by other CARB publications. The *California's Fourth Climate Change Assessment – California's Changing Climate 2018: A Summary of Key Findings from California's Fourth Climate Change Assessment* states:

> *Page 8: "This Fourth Assessment report highlights the importance of adaptation efforts to minimize climate impacts to disadvantaged communities, as well as case studies of innovative programs to increase resiliency of vulnerable populations in California. The report identified areas for additional research needed to improve climate adaptation for vulnerable populations and to promote climate justice in California. These include better tools, indices, maps, and metrics for identifying and quantifying resilience in vulnerable communities, research into achieving a just transition to a low carbon economy, and methods for ensuring community involvement in climate adaptation planning."*
> *Page 14: States that agriculture will be impacted by climate change. "Many of these impacts can be lessened through on-farm management practices, technological advances, and incorporation of climate change risks in decision-making."*
> *Page 18: "Climate change is making major disasters more frequent and destructive, and emergency mangers are starting to ensure their capacity matches growing challenges. A Fourth Assessment study found that $1.7 billion of critical facilities for emergency response, like dispatch centers and fire stations, are at risk to wildfire or flood damage by 2100, and researchers developed a tool to assess emergency infrastructure vulnerability.*

The *Assessment Appendix A Page A-1* references investor-owned electric utilities (IOUs) which have the best data base of low-income households in the state and can be a valuable partner in getting online these disadvantaged and vulnerable residents. Assemblymember Chris Holden, Chair of the Utilities and Energy Committee requested information from the IOUs regarding the home connectivity status of their low-income customers and the nature of online communications about energy efficiency programs. The responses from the IOUs revealed additional evidence of low-income residents being disadvantaged because they do not have email addresses on record to receive online communications.

IOU CARE Customers	PG&E	SCE	SDG&E	SoCalGas
IOU Total CARE Customers	1,406,799	1,227,268	282,388	1,557,184
CARE Customers with Email Addresses	488,752	445,807	197,672	761,709
% CARE Customers Online with IOU	35%	36%	70%	49%

It is clear that from enabling smart meters, robust demand response programs, real-time price and usage information, grid stability, cost savings, lower energy demand, and reduced GHG emissions that California's public policy goals are already dependent on ubiquitous access to a high-speed Internet network, and that dependence will only increase over time.

Overall, what is needed is to incorporate Digital Inclusion into every GGRF investment, both for the 4 programs that receive 60% of the funds through continuous appropriation and the 40% allocated through the State budget process pursuant to the Cap-and-Trade Investment Plan. Each of the 4 programs receiving the continuous appropriation should be asked to develop a set of strategies for optimizing broadband deployment in the course of implementing their projects. And, then CARB needs to continue to provide focused leadership to ensure that something actually happens. As examples: (1) While the High-Speed Rail Project (HSR), which goes right through the heart of San Joaquin Valley agriculture, receives 25% of GGRF and is considering incorporating broadband into its construction, years have passed since this concept was first raised and there is still no significant broadband deployment being enabled by HSR. (2) While the Strategic Growth Council receives 20% of GGRF for the Affordable Housing and Sustainable Communities Program, the majority of residents in publicly-subsidized housing in California remain unconnected and Digital Inclusion is not fully embraced as an essential "sustainable" strategy for all funded projects. (3) While the California State Transportation Agency and Department of Transportation (Caltrans) receive 15% of GGRF, Caltrans and the California Transportation Agency are still deliberating on how to advance broadband as a fully-supported mobility strategy, including the designation of strategic corridors for deployment. Further, in order to get disadvantaged communities and low-income households online, there must be in-language and in-culture outreach by "trusted messengers and honest brokers"—community-based organizations (CBOs) who know and understand the priority populations. This requires collaboration between all of the recipients of GGRF funds and grants and CBOs that are experienced in promoting and achieving Digital Inclusion. The Third Investment Plan presents that opportunity to harness the energy and power of collaboration and partnerships by bringing together a broader set of CBOs and stakeholders to explore working together to achieve the shared goals for GHG emission targets and closing the Digital Divide.

Recommendations to Address Multiple State Goals and Leverage Resources

Incorporation and integration of Digital Inclusion into the Cap-and-Trade Third Investment Plan and explicitly authorizing funding for Digital Inclusion projects will both: (a) accelerate progress towards meeting the State's GHG emission reduction targets and climate change goals; and (b) align with other State goals and leverage additional existing resources. The relationship between the climate change goals and closing the Digital Divide per the Internet For All Now Act of 2017 is explained above. However, another current opportunity to align the Third Investment Plan with State goals and leverage existing resources relates to the corridor planning processes being conducted by the California Transportation Commission (CTC) for the Comprehensive Multimodal Corridor Planning Guidelines and the Department of Transportation (Caltrans) for the Corridor Planning Guidebook. Attached is the CETF letter to CTC and Caltrans providing input to fully incorporate broadband as a "mobility" strategy to decrease traffic congestion and reduce impacts on the environment, making the case for "broadband as a green strategy" in transportation. The California Broadband Council is coordinating efforts among State Agencies and stakeholders to facilitate identification of "Strategic Corridors" for broadband deployment. CARB can reinforce the importance of this collaboration among State Agencies and advance implementation by supporting it through the Third Investment Plan.

These strategies are consistent with the *California Climate Investments Cap and Trade Dollars at Work: Funding Guidelines for Agencies that Administer California Climate Investments* delineated on Page 10, Table 2. The Guiding Principles that most align with Digital Inclusion are indicated below with an asterisk although Digital Inclusion is consistent with all of them.

**Alignment with Digital Inclusion Strategies*

<u>Summary of Guiding Principles for California Climate Investments</u>
III.D.1 Facilitate GHG emission reductions and further the purposes of AB32 and related statutes. [Requirement.]*
III.D.2 Target investment in and benefiting priority populations, with a focus on maximizing disadvantaged community benefits. [Requirement]*
III.D.3 Maximize economic, environmental, and public health co-benefits to the State. [Requirement]
III.D.4 Foster job creation and job training, wherever possible. [Requirement]*
III.D.5 Encourage projects that contribute to other State climate goals. [Recommendation]*
III.D.6 Coordinate investments and leverage funds where possible to provide multiple benefits and to maximize benefits. [Recommendation]*
III.D.7 Avoid potential substantial burdens to disadvantaged communities and low-income communities. [Requirement]
III.D.8 Ensure transparency and accountability and provide public access to program information. [Requirement]
III.D.9 Conduct outreach to help potential applicants access funding, particularly for priority populations. [Recommendation]

In summary, ensuring ubiquitous broadband to all communities and getting online all residents has multiple benefits and enables more efficient solutions to address all other challenges facing California: generate jobs, enhance workforce skills, improve transportation mobility, reduce energy costs, and enable more efficient management of natural resources. As stated above, what is needed overall is to incorporate and integrate Digital Inclusion into the 4 programs that receive 60% of the GGRF through continuous appropriation and to authorize other projects to close the Digital Divide as eligible for the 40% of GGRF allocated through the State budget process. There also needs to be facilitation of collaboration between climate change stakeholders and Digital Inclusion champions, particularly CBOs that have experience in reaching disadvantaged communities and low-income households. CETF stands ready to assist CARB in convening stakeholders and forging innovative partnerships.

The following are over-arching recommendations for inclusion in the Third Investment Plan that will require consultation among all the stakeholders to develop and refine implementation actions. However, it is essential to establish the policy and commitment in the Plan.

- Request High-Speed Rail Authority (HSR), Strategic Growth Council, California State Transportation Agency, and Department of Transportation to prepare and implement plans to incorporate Digital Inclusion and facilitation of broadband deployment in their use of GGRF continuous appropriations. Engage the California Department of Food and Agriculture and California State Board of Food and Agriculture, University of California (Agriculture and Natural Resources), U.S. Department of Agriculture, and CENIC (Corporation for Education Network Initiatives in California) to assist HSR.

- Endorse efforts of the California Broadband Council, California Transportation Commission, Department of Transportation, California Public Utilities Commission, Office of Emergency Services, California Emerging Technology Fund, Internet Service Providers, Metropolitan Planning Organizations, Local Transportation Commissions, and other stakeholders to confer and designate "Strategic Corridors" for broadband deployment.

- Encourage all recipients of GGRF to engage with community-base organizations (CBOs) experienced in promoting and achieving Digital Inclusion to become partners in closing the Digital Divide and eligible to receive funding through their GGRF grants. In particular, encourage the Strategic Growth Council to convene a forum with the Broadband Regional Consortia, Digital Inclusion CBOs, and all current recipients of funding from the Affordable Housing and Sustainable Communities Program to explore how to collaborate and partner to get disadvantaged communities and low-income households online. The California Emerging Technology Fund will assist with this convening.

- Engage and urge the California Public Utilities Commission and energy utilities to reach out to all low-income customers to inform them about available affordable offers for Internet service. Encourage planning and funding within the CARE Program for outreach to and assistance to low-income household to subscribe to affordable offers or support expanded legislative authority if needed. Consider providing match funding to CARE from GGRF.

- Authorize Digital Inclusion projects as eligible for GGRF funding, including:
  - Outreach and assistance to low-income households, especially in disadvantaged communities, to sign up for affordable Internet service offers in conjunction with providing awareness and education about reducing household carbon footprints.
  - Screening and technical assistance by 2-1-1 Information Services for both home connectivity and opportunities to reduce household carbon footprints coupled with referrals to Digital Inclusion CBOs to assist residents in getting online.
  - Planning in disadvantaged communities to become "smart sustainable communities" with ubiquitous broadband deployment to ensure access for all residents online, including preparation of policies and ordinances for implementation.
  - Convening of Local Governments with disadvantaged communities by the California State Association of Counties (CSAC), Rural County Representatives of California (RCRC), and League of California Cities (LCC) in collaboration with Broadband Regional Consortia to develop strategies for broadband deployment and adoption in those areas.
  - Planning by the Office of Emergency Services and Regional Consortia for deployment of broadband to county fairgrounds frequently used for staging emergency responses and evacuating residents, including installation of research monitoring stations to gather information to inform strategies and tactics to assist with fighting wildfires to reduce GHG emissions.
  - Technical assistance to farmers regarding AgTech, particularly in disadvantaged communities, coupled with monitoring and data gathering to document results and conduct research on resource efficiency.
  - Establishment and operations of a robust statewide telehealth-telemedicine network based in California (with all Directors residing in the state) that connects healthcare facilities in all disadvantaged communities to medical centers.
  - Deployment of infrastructure to ensure that all publicly-subsidized affordable housing units (particularly in older housing authority complexes) have connectivity and digital literacy training (coupled with affordable devices) to get online all residents.
  - Outreach and technical assistance to small businesses in disadvantaged communities to get them online to reduce their carbon footprint, improve productivity and increase profitability, and assure enhanced resiliency.
  - Planning, technical assistance and funding to Tribal Governments for broadband deployment powered by renewable energy to homes on Tribal Lands.

The California Emerging Technology Fund thanks you for consideration of these Comments.

<u>Attachments to CETF Comments to CARB on Draft Third Investment Plan</u>

- Summary of CETF Comments on Draft Third Investment Plan
- Brief on "Broadband as a Green Strategy": *Can the Internet Help Save the Environment? YES*
- CETF Decade Report: Catalyst for Action
- 2017 Statewide Survey on Broadband Adoption
- CETF Letter to California Transportation Commission and Department of Transportation