Sustainability Roadmap 2018-2019:

Climate Change Adaptation

Progress Report and Plan for Meeting the Governor's Sustainability Goals for California State Agencies

California Department of Food and Agriculture

Edmund G. Brown Jr., Governor

December 2017

California Department of Food & Agriculture Sustainability Road Map 2018-2019: Climate Change Adaptation

Mari McNeill
Primary Author

Glenn Medrano
Building and Property Management Unit Manager

Lance Simmons
Departmental Services Branch Chief

Karen Ross
Secretary

TABLE OF CONTENTS

Page

Table of Contents i

List of Tables i

Acronyms ii

EXECUTIVE SUMMARY 1

SUSTAINABILITY GOALS 2

EO B-30-15 2

Legislative Direction 3

State Resources and Guidance Documents 3

CLIMATE CHANGE ADAPTATION 4

Climate Change Risks to Facilities 4

Understanding Climate Risk to Existing Facilities 5

Understanding the Potential Impact of Facilities on Communities 9

Understanding Climate Risk to Planned Facilities 13

Integrating Climate Change into Department Planning and Funding Programs 14

Measuring and Tracking Progress 14

SUSTAINABILITY MILESTONES AND TIMELINE 15

DEPARTMENT STAKEHOLDERS 16

LIST OF TABLES

Page

Table 1: Top Five Facilities Most Affected by Changing Temperature 5

Table 2: Five Facilities that Will Experience the Largest Increase in Extreme Heat Events 5

Table 3: Facilities that Will be Most Impacted by Projected Changes in Precipitation 7

Table 4: Facilities at Risk From Rising Sea Levels 8

Table 5: Facilities located in disadvantaged communities 10

Table 6: Facilities Located in Urban Heat Islands 12

Table 7: Climate Risks to New Facilities 13

Table 8: Extreme Heat Events and New Facilities 13

Table 9: New Facilities and Disadvantaged Communities and Urban Heat Islands 13

Table 10: Integration of Climate Change into Department Planning 14

Table 11: Engagement and Planning Processes 14

Table 12: Climate Change in Funding Programs 14

Acronyms

AB	Assembly Bill
BPMU	Building and Property Management Unit
CalEnviroScreeen	California Communities Environmental Health Screening Tool
CDFA	California Department of Food and Agriculture
COMET-Planner	Carbon Dioxide Management Evaluation Tool-Planner
CM	Centimeters
CNRA	California Natural Resources Agency
DACs	Disadvantaged Communities
DGS	Department of General Services
EHT	Extreme Heat Threshold
EO	Executive Order
EPP	Environmentally Preferable Purchasing
FT	Feet
GCM	Global Circulation Model
GHGe	Greenhouse Gas Emissions
IEQ	Indoor Environmental Quality
MAX	Maximum
MBCX	Monitoring Based Building Commissioning
MIN	Minimum
OPC	Ocean Protection Council
PMDB	Project Management Development Branch
RCP	Representative Concentration Pathway
RESD	Real Estate Services Division
SB	Senate Bill
USDA	United States Department of Agriculture
ZEV	Zero Emission Vehicle

EXECUTIVE SUMMARY

Over 98 years ago, the California Legislature created the California Department of Food and Agriculture (CDFA) to serve the citizens of California by promoting and protecting a safe, healthy food supply, and enhancing local and global agricultural trade, through efficient management, innovation, and sound science, with a commitment to environmental stewardship. Currently organized in seven Divisions and located at more than 100 locations throughout the State, CDFA's employees work with its federal and county partners in striving to support and advance the success of those that have made California agriculture the recognized leader of food and agricultural products in the world.

With direction from the Governor's Office and the Department of General Services (DGS), CDFA was tasked with preparing a Road Map document to describe the status and steps CDFA is taking to meet the requirements of the Governor's Executive Orders (EO) B-18-12, B-16-12, and other water and energy conservation policies. This document is intended to outline the requirements and describe what next steps CDFA will take to comply with each EO.

CDFA currently owns 22 facilities throughout the State. These facilities provide a vast array of purposes for the Department. From greenhouses in Arvin to the 16 Border Protection Stations along California's borders, every facility is critical to meeting CDFA's mission. CDFA seeks guidance from DGS for all property management needs related to these facilities, from construction to minor maintenance repairs.

CDFA recognizes the importance of conservation and climate adaptation. CDFA will continue to work closely with DGS to ensure all regulations are met for all new and existing properties.

CDFA is committed to meeting the requirements set forth in EO B-18-12, B-16-12, and other water and energy conservation policies. I look forward to working closely with staff to achieve our goals through the execution of this Road Map.

Yours truly,

Kevin Masuda
for

Karen Ross
Secretary

SUSTAINABILITY GOALS

The Governor has directed California State Agencies to demonstrate sustainable operations and to lead the way by implementing sustainability policies set by the state. Sustainability includes the following general initiatives:

- Greenhouse Gas Emissions (GHGe) Reductions
- Climate Change Adaptation
- Building Energy Efficiency and Conservation
- Indoor Environmental Quality (IEQ)
- Water Efficiency and Conservation
- Monitoring Based Building Commissioning (MBCx)
- Environmentally Preferable Purchasing (EPP)
- Financing for Sustainability
- Zero Emission Vehicle (ZEV) Fleet Purchases
- Electric Vehicle Charging Infrastructure
- Monitoring and Executive Oversight

The Governor has issued numerous EOs directing sustainable state operations. The order relevant to climate adaptation is:

EO B-30-15

EO B-30-15 declared climate change to be a threat to the well-being, public health, natural resources, economy, and environment of California. It established a new interim statewide GHGe reduction target of 40 percent below 1990 levels by 2030, and reaffirms California's intent to reduce GHGe by 80 percent below 1990 levels by 2050. To support these goals, this order requires numerous state agencies to develop plans and programs to reduce emissions. It also directs state agencies to take climate change into account in their planning and investment decisions and employ life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. State agencies are directed to prioritize investments that build climate preparedness and reduce GHGe, prioritize natural infrastructure, and protect the state's most vulnerable populations.

Legislative Direction

Several pieces of legislation were signed in 2015-16 that codified several elements of the EO. These include the following:

- Assembly Bill (AB) 1482 (Gordon, 2015): Requires that the California Natural Resources Agency (CNRA) update the State's adaptation strategy, Safeguarding California, every three years. Directs State agencies to promote climate adaptation in planning decisions and ensures that state investments consider climate change impact, as well as the use of natural systems and natural infrastructure. (Public Resources Code Section 71153.)
- Senate Bill (SB) 246 (Wieckowski, 2015): Established the Integrated Climate Adaptation and Resiliency Program within the Governor's Office of Planning and Research to coordinate regional and local efforts with state climate adaptation strategies to adapt to the impact of climate change. (Public Resources Code Section 71354.)
- SB 2800 (Quirk, 2016): Requires State agencies to take the current and future impact of climate change into planning, designing, building, operating, maintaining, and investing in state infrastructure. CNRA will establish a Climate-Safe Infrastructure Working Group to determine how to integrate climate change impact into state infrastructure engineering. (Public Resources Code Section 71155.)

State Resources and Guidance Documents

California has invested significant resources in understanding the risks of climate change to the State and actions available to respond to and reduce these risks. These include the following:

- **Safeguarding California**: The State's climate adaptation strategy is organized by sector. Each sector identifies risks from climate change and actions to reduce those risks.
- **Safeguarding California Implementation Action Plans**: Directed under EO B-30-15, the Implementation Action Plans outline the steps that will be taken in each sector to reduce risks from climate change.
- **Building a Resilient California**: Prepared under direction of EO B-30-15, this document provides a framework for State agencies to integrate climate change into planning and investment, including guidance on data selection and analytical approach.
- **California's Climate Change Assessments**: California has completed three comprehensive assessments of climate change impact on California. Each assessment has included development of projections of climate impact on scale that is relevant to State planning (i.e., downscaled climate projections). This data is available through Cal-Adapt, an online data visualization and access tool.

CLIMATE CHANGE ADAPTATION

EO B-30-15 directs State Agencies to integrate climate change into all planning and investment. Planning and investment can include the following:

- Infrastructure and capital outlay projects
- Grants
- Development of strategic and functional plans
- Permitting
- Purchasing and procurement
- Guidance development
- Regulatory activity
- Outreach and education

This template will focus on the first three of these activities, and follows the guidance created by the Technical Advisory Group developed under EO B-30-15 to assist State Agencies to complete this task.

Climate Change Risks to Facilities

For all infrastructure, it is important to assess the risk that a changing climate poses to an asset or project (e.g., sea level rise or increasing daily temperatures). It is also important to recognize the impact that an infrastructure project has on the surrounding community and the impact on individual and community resilience (e.g., heat island impact).

To determine how to consider climate change for a given project, plan, or existing infrastructure, this department will consider the following screening questions:

1. What is the lifetime of the facility, planned project or plan?
2. Could it be affected by changing average climate conditions or increases in extreme events over its lifetime?
3. What is the consequence of that disruption?
4. Will that disruption affect vulnerable populations, critical natural systems, critical infrastructure, or other assets?
5. Will that disruption cause irreversible effects or pose an unacceptable risk to public health and safety?

CDFA has and will continue to work with DGS Real Estate Services Division (RESD) and the Project Management Development Branch (PMDB) on all building design and construction projects.

Understanding Climate Risk to Existing Facilities

Risk from Increasing Temperatures

Under a changing climate, temperatures are expected to increase (both at the high and low end). As a result, facilities will experience higher maximum (Max) temperatures and increased minimum (Min) temperatures.

Table 1: Top Five Facilities Most Affected by Changing Temperature

Facility Name	Annual Mean Max (1961 – 1990)	Annual Mean Max (2031 – 2060)	Annual Mean Max (2070-2099)	Annual Mean Min (1961 – 1990)	Annual Mean Min (2031 – 2060)	Annual Mean Min (2070-2099
ALTURAS AGRICULTURE INSPECTION STATION	62.62	70.8	73.02	30.2	35.61	40.43
BENTON AGRICULTURE INSPECTION STATION	64.6	74	75.3	35.27	39.82	44.48
DORRIS AGRICULTURE INSPECTION STATION	60.47	70.67	70.51	31.51	36.88	41.61
LONG VALLEY AGRICULTURE INSPECTION STATION	62.36	62.1	72.8	30.01	36.03	40.64
TOPAZ AGRICULTURE INSPECTION STATION	65.56	81.75	76.02	32.48	38.46	43.22

The information in the above table, from DGS, can be found at www.energystar.gov.

In addition to changing average temperatures, climate change will increase the number of extreme heat events across the State. Extreme events are likely to be experienced sooner than changes in average temperatures.

Table 2: Five Facilities that Will Experience the Largest Increase in Extreme Heat Events

Facility Name	Extreme heat threshold (EHT)	Average number of days above EHT (1961-1990)	Average # of days above EHT (2031-2060)	Increase in # of days above EHT by mid-century	Avg. # days above EHT (2070-2099)	Increase in Avg. # days above EHT by end of century
ALTURAS AGRICULTURE INSPECTION STATION	95*F	4	24	20	49	45
BENTON AGRICULTURE INSPECTION STATION	83*F	4	31	27	66	62
DORRIS AGRICULTURE INSPECTION STATION	51*F	4	20	16	47	43
LONG VALLEY AGRICULTURE INSPECTION STATION	84*F	4	31	27	68	64
TOPAZ AGRICULTURE INSPECTION STATION	89*F	4	30	26	64	60

The information in the above table can be found at http://cal-adapt.org/.

The facilities listed in Table 2 are the top five locations with the highest increase of temperature 1961 – 2099. This rise in temperature shown above may increase the demand for

energy used for cooling systems and outside temperatures may create heat advisory risks in the future for those working outdoors. CDFA remains vigilant in maintaining employee awareness, reminding employees of heat illness risks and prevention methods annually. CDFA also releases additional heat advisory warnings to all employees whenever a heat event is anticipated. CDFA does not anticipate any negative impact to occupant health within CDFA facilities or damage to structural integrity resulting from this heat increase.

CDFA has encouraged development of Best Management Practices that reduce climate risks; such as The Healthy Soils Initiative and various Specialty Crop Block Grants. CDFA also facilitates incentive programs for sustainable practices for resilience; such as the State Water Efficiency and Enhancement Program (SWEEP) and the Dairy Digester Research and Development Program. CDFA's SWEEP has been crucial in implementing resilient water management across the state.

As referenced in the Safeguarding California Implementation Action Plan, CDFA is a key partner in various agricultural projects throughout the state designed to increase positive economic and environmental impact, conservation, sustainability and improve best practices.

CDFA encourages creating new technologies to build resilience in California's working lands. CDFA worked with United States Department of Agriculture (USDA) and Colorado State University to develop a new carbon and GHGe evaluation for the Natural Resources Conservation Service conservation practice planning tool, called the Carbon Dioxide Management Evaluation Tool (COMET)-Planner. This tool has been designed to enable farmers to assess the GHGe reductions from implementing various land management practices. Some of the practices incorporated in the COMET-Planner include conservation tillage, strip tillage, cover cropping, windbreak establishment, and habitat restoration, among others. The development of tools to help agriculture adapt to climate change is one of the recommendations referenced in the Climate Change Consortium final report (2013).

CDFA will continue to consider various options and strategies to reduce the impact of changing temperatures on facility performance and to protect occupant health and safety (e.g., additional Heating, ventilation, and air conditioning capacity; shade structures or tree planting; relocation; etc.).

Risks from Changes in Precipitation

Table 3: Facilities that Will be Most Impacted by Projected Changes in Precipitation

Facility Name	Annual Mean Max Precipitation (1961 – 1990)	Annual Mean Precipitation (2031 – 2060)	Percent Change by mid-century	Annual Mean Precipitation (2070 – 2099)	Percent change by end of century
ALTURAS AGRICULTURE INSPECTION STATION	0.91	0.0000118	99.87%	0.0000128	99.86%
ALTURAS AGRICULTURE INSPECTION STATION	0.91	0.0000118	99.87%	0.0000128	99.86%
BANNING FRUIT & VEGETABLE QC	1.18	0.0000143	99.88%	0.0000154	99.87%
BENTON AGRICULTURE INSPECTION STATION	0.52	0.00000661	99.87%	0.00000779	99.85%
BENTON AGRICULTURE INSPECTION STATION	0.52	0.00000661	99.87%	0.00000779	99.85%
BLYTHE AGRICULTURE INSPECTION STATION	0.29	0.00000284	99.90%	0.00000345	99.88%
DORRIS AGRICULTURE INSPECTION STATION	1	0.0000124	99.88%	0.0000131	99.87%
GLASSY WINGED SHARPSHOOTER PROJECT	0.49	0.00000591	99.88%	0.00000597	99.88%
HORNBROOK AGRICULTURE INSPECTION STATION	1.49	0.0000188	99.87%	0.00002	99.87%
LONG VALLEY AGRICULTURE INSPECTION STATION	1	0.0000128	99.87%	0.0000146	99.85%
MEADOWVIEW	1.22	0.0000165	99.86%	0.0000178	99.85%
NEEDLES AGRICULTURE INSPECTION STATION	0.32	0.00000339	99.89%	0.00000366	99.89%
REDWOOD AGRICULTURE INSPECTION STATION	5.92	0.0000742	99.87%	0.0000751	99.87%
SAN BERNARDINO VETERINARY LABORATORY	0.87	0.0000106	99.88%	0.0000113	99.87%
SMITH RIVER AGRICULTURE INSPECTION STATION	4.87	0.0000616	99.87%	0.0000622	99.87%
TOPAZ AGRICULTURE INSPECTION STATION	0.72	0.00000974	99.86%	0.0000113	99.84%
TURLOCK VETERINARY LABORATORY	0.86	0.0000112	99.87%	0.000012	99.86%
VIDAL AGRICULTURE INSPECTION STATION	0.34	0.00000387	99.89%	0.0000043	99.87%
WINTERHAVEN AGRICULTURE INSPECTION STATION	0.28	0.00000243	99.91%	0.00000277	99.90%
YERMO AGRICULTURE INSPECTION STATION	0.23	0.00000282	99.88%	0.00000334	99.85%

The information in the above table, from DGS, can be found at www.energystar.gov.

CDFA facilities will be equally affected by changes in precipitation. Since most of CDFA's facilities are inspection booths on the side of highways and freeways, the only anticipated

changes would be outside the CDFA facilities. CDFA does not anticipate any impact on structural integrity, occupant health, or safety.

Risks from Sea Level Rise

Increasing global temperatures are contributing to rising sea levels. Rising sea levels will result in inundation of coastal areas and increased flooding due to storm surges. The California Ocean Protection Council (OPC) has issued guidance for State agencies on what level of sea level rise to consider. The Guidance document provides the following estimates of sea level rise for the California Coast, which are based on a study by the National Academy of Sciences:

Time Period	North of Cape Mendocino	South of Cape Mendocino
2000 - 2030	-4 to 23 cm (-0.13 to 0.75 ft)	4 to 30 cm (0.13 to 0.98 ft)
2000 – 2050	-3 to 48 cm (-0.1 to 1.57 ft)	12 to 61 cm (0.39 to 2.0 ft)
2000 – 2100	10 to 143 cm (0.3 to 4.69 ft)	42 to 167 cm (1.38 to 5.48 ft)

The information in the above table (Centimeters (cm) and Feet (ft)) can be found at http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013_SLR_Guidance_Update_FINAL1.pdf

An accompanying OPC resolution recommends that departments base analyses on estimates of sea level rise in the upper two-thirds of the range.

Table 4: Facilities at Risk From Rising Sea Levels

Facility Name	Area	Sea Level Rise .0 m	Sea Level Rise .5 m	Sea Level Rise 1.0 m	Sea Level Rise 1.41 m
SMITH RIVER AGRICULTURE INSPECTION STATION	Del Norte County	0	0	0	0
MEADOWVIEW	Sacramento	0	0	0	0

The information in the above table, from DGS, can be found using the Cal-adapt reference tool at http://cal-adapt.org/tools/slr-calflod-3d/.

None of CDFA's facilities will be impacted by rising sea levels. Even the above locations (closest to the shoreline) will not be impacted.

Natural Infrastructure to Protect Existing Facilities

EO B-30-15 directs State agencies to prioritize the use of natural and green infrastructure solutions. Natural infrastructure is the "preservation or restoration of ecological systems or the utilization of engineered systems that use ecological processes to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but need not be limited to, flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days" (Public Resource Code Section 71154(c)(3)).

CDFA will evaluate and consider selecting projects to employ natural infrastructure to reduce the risks of climate change to CDFA's facilities based on their suitability and cost-effectiveness. Future CDFA projects may include reducing impermeable surface areas surrounding facilities, implementing additional greening potentially with the use of green infrastructure as part of cooling strategies in public and private spaces, utilizing additional shading (such as trees, vegetation, or shade structures), or expanding the use of cool, porous, or sustainable materials in pavements. CDFA will work with DGS and refer to Preparing California for Extreme Heat: Guidance and Recommendations to develop the solutions which best fit the Department's needs.

Understanding the Potential Impact of Facilities on Communities

Vulnerable Populations

Certain populations are more susceptible to the effects of changing climate conditions, and will have less capacity to recover from changing average conditions and more frequent and severe events. A number of factors contribute to vulnerability, often in overlapping and synergistic ways. These can include a number of social and economic factors, and be determined by existing environmental, cultural, and institutional arrangements. Vulnerable populations can include, but are not limited to, people living in poverty; people with underlying health conditions; incarnated populations; linguistically or socially isolated individuals; communities with less access to healthcare or educational resources; or communities that have suffered historic exclusion or neglect.

Disadvantaged Communities

California is required to invest resources in disadvantaged communities (DACs). DACs are identified using the California Communities Environmental Health Screening Tool (CalEnviroScreeen), a tool that ranks census tracts based on a combination social, economic, and environmental factors. While it does not capture all aspects of climate vulnerability, it is one tool that is available, and does include several relevant characteristics. In many cases, disadvantaged communities are more likely to suffer damage under changing climate conditions, including extreme events. The department's facilities located in these communities can contribute or alleviate the vulnerability of these communities.

Table 5: Facilities located in disadvantaged communities

Facility Name	CalEnviro-Screen Score (3.0 Percentile Range)	Is it located in a disadvantaged community? Yes/No
ALTURAS AGRICULTURE INSPECTION STATION	31-35%	No
GLASSY WINGED SHARPSHOOTER PROJECT (ARVIN)	76-80%	Yes
BANNING FRUIT & VEGETABLE QC	66-75%	Yes
BENTON AGRICULTURE INSPECTION STATION	16-20%	No
BLYTHE AGRICULTURE INSPECTION STATION	41-45%	No
TULELAKE AGRICULTURE INSPECTION STATION (CANBY)	21-25%	No
LONG VALLEY AGRICULTURE INSPECTION STATION (CHILCOOT)	16-20%	No
REDWOOD AGRICULTURE INSPECTION STATION (CRESCENT CITY)	26-30%	No
DORRIS AGRICULTURE INSPECTION STATION	31-35%	No
HORNBROOK AGRICULTURE INSPECTION STATION	36-40%	No
NEEDLES AGRICULTURE INSPECTION STATION	66-70%	No
MEADOWVIEW (SACRAMENTO)	71-75%	Yes
SAN BERNARDINO VETERINARY LABORATORY	96-100%	Yes
SMITH RIVER AGRICULTURE INSPECTION STATION	26-30%	No
MEYERS AGRICULTURE INSPECTION STATION (TAHOE PARADISE)	6-10%	No
TOPAZ AGRICULTURE INSPECTION STATION	21-25%	No
TRUCKEE AGRIC INSPECTION STATION - NEW	1-5%	No
TURLOCK VETERINARY LABORATORY	96-100%	Yes
VIDAL AGRICULTURE INSPECTION STATION	66-70%	No
WHEELER RIDGE	71-75%	Yes
WINTERHAVEN AGRICULTURE INSPECTION STATION	71-75%	Yes
YERMO AGRICULTURE INSPECTION STATION	61-65%	No

The information in the above table, from DGS, can be found at http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.

Disadvantaged communities have CalEnviroScreen scores between 75 – 100. There are seven laboratories listed in Table 5 located in disadvantaged communities. These facilities are 32 percent of the facilities CDFA owns.

The following Sacramento-based CDFA programs and initiatives have issued financial grants and awards for projects in disadvantaged communities:

- CDFA contributes to and provides funding for programs which strengthen local and regional food systems by supporting and creating incentives for establishment of urban and peri-urban agriculture, “farm to fork” programs, farmers’ markets, and school and community gardens, supported by the agriculture industry.
- The Specialty Crop Block Grant Program encourages projects that support and promote sustainable agricultural practices such as water conservation and practices that reduce soil degradation and the use of fossil fuel-based inputs such as pesticides and synthetic fertilizers.

- The Dairy Digester Research and Development Program encourages the implementation of dairy digesters that result in long-term methane emission reductions on California dairies and minimize or mitigate adverse environmental impact.
- The Alternative Manure Management Program provides financial assistance for the implementation of non-digester manure management practices in California, which will result in reduced greenhouse gas emissions.
- The State Water Efficiency and Enhancement Program facilitates integration of irrigation systems that reduce greenhouse gases and save water on California agricultural operations.
- CDFA leads the Healthy Soils Initiative, which is intended to reduce greenhouse gasses; promote resiliency; improve the capacity of communities to prepare, respond, and recover from climate-related health risks by storing water in soils; reduce agricultural water needs; improve nutritional value of crops; and reduce the need for chemical inputs such as fertilizers.

For more information on these programs, please visit https://www.cdfa.ca.gov/grants/index.html or https://www.cdfa.ca.gov/oefi/.

Urban Heat Islands

Urban heat islands are areas with localized spikes in temperature, which impact human health, increase pollution, and increase energy demand. Urban heat islands occur during the hot summer months in areas with higher percentages of impervious surface and less vegetation. This is likely in areas with large parking lots, dense development, and lower tree density and shading. Urban heat islands can be mitigated (i.e., reduced) through tree planting and other greening measures, cool roofs (e.g., lighter roofing materials that reflect light), cooler pavements, and other measures.

Table 6: Facilities Located in Urban Heat Islands

Facility Name	Located in an urban heat island (yes/no)
ALTURAS AGRICULTURE INSPECTION STATION	0 (No)
BANNING FRUIT & VEGETABLE QC	46305.4
BENTON AGRICULTURE INSPECTION STATION	0 (No)
BLYTHE AGRICULTURE INSPECTION STATION	0 (No)
DORRIS AGRICULTURE INSPECTION STATION	0 (No)
GLASSY WINGED SHARPSHOOTER PROJECT	5217.41
HORNBROOK AGRICULTURE INSPECTION STATION	0 (No)
LONG VALLEY AGRICULTURE INSPECTION STATION	0 (No)
MEADOWVIEW	2831.91
NEEDLES AGRICULTURE INSPECTION STATION	0 (No)
REDWOOD AGRICULTURE INSPECTION STATION	0 (No)
SAN BERNARDINO VETERINARY LABORATORY	33791.9
SMITH RIVER AGRICULTURE INSPECTION STATION	0 (No)
TOPAZ AGRICULTURE INSPECTION STATION	0 (No)
TURLOCK VETERINARY LABORATORY	5322.91
VIDAL AGRICULTURE INSPECTION STATION	0 (No)
WINTERHAVEN AGRICULTURE INSPECTION STATION	0 (No)
YERMO AGRICULTURE INSPECTION STATION	0 (No)

The information in the above table, from DGS, can be found at https://calepa.ca.gov/climate/urban-heat-island-index-for-california/urban-heat-island-interactive-maps/.

To reduce the contribution to urban heat islands, CDFA will evaluate and consider selecting projects based on their suitability and cost-effectiveness. Future CDFA projects may include reducing impermeable surface areas surrounding facilities, implementing additional greening measures with the use of green infrastructure as part of cooling strategies in public and private spaces, utilizing additional shading (such as trees, vegetation, or shade structures), or expanding the use of cool, porous, or sustainable materials in pavements. CDFA will work with DGS and refer to Preparing California for Extreme Heat: Guidance and Recommendations to develop the solutions which best fit the Department's needs.

Per the above table, up to five facilities are located in urban heat islands. These facilities mostly have small parking lots. Meadowview has 196 spots but the rest have 30 spaces or less (Glassy Winged Sharpshooter Project has 5, San Bernardino Veterinary Laboratory has 30, Turlock Veterinary Laboratory has 23).

Understanding Climate Risk to Planned Facilities

Table 7: Climate Risks to New Facilities

Facility Name	Annual Mean Max Temperature (1961 – 1990)	Annual Mean Max Temperature (2031 – 2060)	Annual Mean Min Temperature (1961 – 1990)	Annual Mean Min Temperature (2031 – 2060)	Annual Mean Max Precipitation (1961 – 1990)	Annual Mean Precipitation (2031 – 2060)
Tulare lab	Data Unavailable	Data Unavailable	Data Unavailable	Data Unavailable	Data Unavailable	Data Unavailable
Yermo Border Protection Station	80.81	74.9	53.18	57.62	0.23	0.0000028

The information in the above table, from DGS, can be found at www.energystar.gov.

Table 8: Extreme Heat Events and New Facilities

Facility Name	Extreme heat threshold (EHT)	Average number of days above EHT (1961-1990)	Average number of days above EHT (2031-2060)	Increase in number of days above EHT
Tulare lab	94*F	4	29	25
Yermo Border Protection Station	106*F	4	25	21

The information in the above table can be found at http://cal-adapt.org/.

Table 9: New Facilities and Disadvantaged Communities and Urban Heat Islands

Facility Name	Located in a Disadvantaged Community (yes/no)	Located in an urban heat island (yes/no)
Tulare lab	No (High score of 57)	
Yermo Border Protection Station	No	

The information in the above table, from DGS, can be found at https://calepa.ca.gov/climate/urban-heat-island-index-for-california/urban-heat-island-interactive-maps/ and http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.

CDFA will continue to work with DGS to meet all requirements for all new and existing properties. The properties being developed above are not in a disadvantaged community or urban heat island.

Natural Infrastructure

CDFA is working closely with DGS regarding property regulations and will rely on the DGS Real Estate Services Division's expertise on natural infrastructure in new facility design and operation.

Full Life Cycle Cost Accounting

EO B-30-15 directs State agencies to employ full life cycle cost accounting in all infrastructure investment. Lifecycle cost accounting includes:

- Considering initial investment costs, as well as lifetime operation and maintenance costs under changing climate conditions, and including changing average conditions and increases in extreme events.
- Applying non-market evaluation methods such as travel cost, avoided costs, or contingent valuation to capture hard to quantify benefits and costs.

CDFA is working closely with DGS regarding facility planning and will rely on the DGS RESD and PMDB's expertise on employing lifecycle considerations in new facility design and operation.

Integrating Climate Change into Department Planning and Funding Programs

Table 10: Integration of Climate Change into Department Planning

Plan	Have you integrated climate?	If no, when will it be integrated?	If yes, how has it been integrated?
TBD	No	TBD	N/A

CDFA will consult with DGS Office of Sustainability regarding best practices from other departments that have integrated climate change into departmental planning.

Table 11: Engagement and Planning Processes

Plan	Does this plan consider impact on vulnerable populations?	Does this plan include coordination with local and regional agencies?	Does this plan prioritize natural and green infrastructure?
N/A	N/A	N/A	N/A

Climate consideration is not applicable to grants under CDFA because grant funding is designated for specialized purposes unrelated to CDFA facilities (such as grants to enhance the competitiveness of specialty crops, grants to assist shelters with spaying and neutering, etc.).

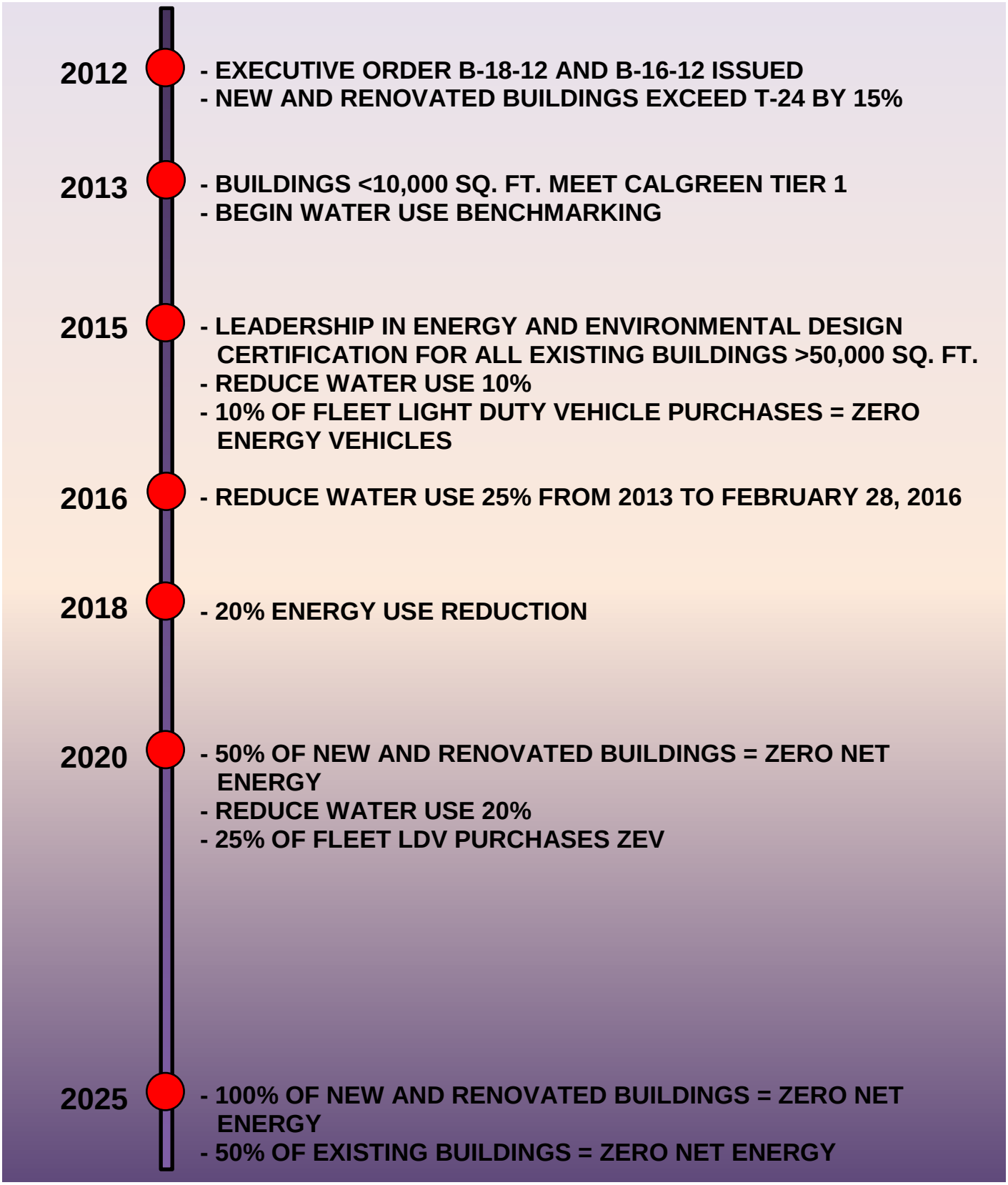
Table 12: Climate Change in Funding Programs

Grant or funding program	Have you integrated climate change into program guidelines?	If no, when will it be integrated?	Does this plan consider impact on vulnerable populations?	Does this program include coordination with local and regional agencies?
N/A	N/A	N/A	N/A	N/A

Measuring and Tracking Progress

CDFA will utilize tools from DGS, Energy Star, California Environmental Protection Agency, Climate Registry Information System, and other conservation contacts and tools provided to ensure all requirements are met. CDFA saves annual data to compare to benchmarks and will continue to improve practices based off the information collected.

SUSTAINABILITY MILESTONES AND TIMELINE



DEPARTMENT STAKEHOLDERS

Understanding Climate Risk at Existing Facilities	
Administrative Services, Building and Property Management	Mari McNeill, Energy Conservation Liaison

Understanding Climate Risk at Planned Facilities	
Administrative Services, Building and Property Management	Mari McNeill, Energy Conservation Liaison

Integrating Climate Change into Department Planning and Funding Programs	
Administrative Services, Building and Property Management	Mari McNeill, Energy Conservation Liaison

Measuring and Tracking Progress	
Administrative Services, Building and Property Management	Mari McNeill, Energy Conservation Liaison