LAS VIRGENES TRIUNFO JOINT POWERS AUTHORITY

Las Virgenes Municipal Water District Board Room, 4232 Las Virgenes Road, Calabasas, CA 91302

AGENDA

JOINT POWERS AUTHORITY - REGULAR MEETING

TUESDAY, SEPTEMBER 5, 2023 – 5:00 PM

PUBLIC PARTICIPATION: The public may join this meeting virtually or attend in person in the Board Room. Teleconference participants will be muted until recognized at the appropriate time by the Chair. To join via teleconference, please use the following Webinar ID:

Webinar ID: https://us06web.zoom.us/j/83047285074

To join by telephone, please dial (669) 900-6833 or (346) 248-7799 and enter Webinar ID:

830 4728 5074

For members of the public wishing to address the Board during Public Comment or during a specific agenda item, please press "Raise Hand" if you are joining via computer; or press *9 if you are joining via phone; or inform the Executive Assistant/Clerk of the Board if attending in person.

Members of the public can also access and request to speak at meetings live on-line, with audio and limited video, at www.lvmwd.com/livestream. To ensure distribution of the agenda, please submit comments 24 hours prior to the day of the meeting. Those comments, as well as any comments received during the meeting, will be distributed to the members of the Board of Directors and will be made part of the official public record of the meeting. Contact Josie Guzman, Executive Assistant/Clerk of the Board, at (818) 251-2123 or jguzman@lvmwd.com with any questions.

ACCESSIBILITY: If requested, the agenda and backup materials will be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in the implementation thereof. Any person who requires a disability-related modification or accommodation, in order to attend or participate in a meeting, including auxiliary aids or services, may request such reasonable modification or accommodation by contacting the Executive Assistant/Clerk of the Board by telephone at (818) 251-2123 or via email to jguzman@lvmwd.com at least 48 hours prior to the meeting.

Members of the public wishing to address the Board of Directors are advised that a statement of Public Comment Protocols is available from the Clerk of the Board. Prior to speaking, each speaker is asked to review these protocols, complete a speakers' card, and hand it to the Clerk of the Board. Speakers will be recognized in the order the cards are received. A live webcast of the meeting will be available at LVMWD.com. Also, a web-based version of the speaker card is available for those who would like to submit written comments electronically or request to make public comment by telephone during the meeting.

PLEDGE OF ALLEGIANCE

1. **CALL TO ORDER AND ROLL CALL**

2. **APPROVAL OF AGENDA**

3. **PUBLIC COMMENTS**

   Members of the public may now address the Board of Directors ***ON MATTERS NOT APPEARING ON THE AGENDA****, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2*

4. **CONSENT CALENDAR**

   Matters listed under the Consent Calendar are considered to be routine, non-controversial and normally approved with one motion. If discussion is requested by a member of the Board on any Consent Calendar item, or if a member of the public wishes to comment on an item, that item will be removed from the Consent Calendar for separate action.

   4.A **Minutes: Regular Meeting of August 7, 2023** **(Pg. 4)**
   Approve.

   4.B **Tapia WRF 003 Outfall Rehabilitation Project: Authorization of Additional Environmental Support** **(Pg. 10)**
   Authorize the Administering Agent/General Manager to approve Scope Change No. 3, in the amount of $18,266, for Rincon Consultants, Inc., to provide additional environmental support for the Tapia WRF 003 Outfall Rehabilitation Project.

5. **ILLUSTRATIVE AND/OR VERBAL PRESENTATION OF AGENDA ITEMS**

   5.A **Pure Water Project Las Virgenes-Triunfo: Update** **Pg. 16)**

   5.B **State and Federal Legislative Update** **(Pg. 19)**

5.C **Per- and Polyfluoroalkyl Substances (PFAS): Policy Update and Communication Strategies**

6. **ACTION ITEMS**

6.A **Climate Action and Adaptation Plan (CAAP): Draft** **(Pg. 50)**
Review and comment on the draft Climate Action and Adaptation Plan (CAAP).

7. **BOARD COMMENTS**

8. **ADMINISTERING AGENT/GENERAL MANAGER REPORT**

9. **FUTURE AGENDA ITEMS**

10. **PUBLIC COMMENTS**

Members of the public may now address the Board of Directors ***ON MATTERS NOT APPEARING ON THE AGENDA****, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2*

11. **ADJOURNMENT**

Pursuant to Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and applicable federal rules and regulations, requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting, should be made to the Executive Assistant/Clerk of the Board in advance of the meeting to ensure availability of the requested service or accommodation. Notices, agendas, and public documents related to the Board meetings can be made available in appropriate alternative format upon request.

LAS VIRGENES – TRIUNFO
JOINT POWERS AUTHORITY
MINUTES
REGULAR MEETING

5:00 PM August 7, 2023

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Leon Shapiro.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **5:00 p.m.** by Chair Jane Nye in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. Josie Guzman, Clerk of the Board, conducted the roll call.

Present: Directors Burns, Coradeschi, Lewitt, Nye, Orkney, Polan, Shapiro, Tjulander, and Wall
Absent: Director Caspary

2. APPROVAL OF AGENDA

Director Wall moved to approve the agenda. Motion seconded by Director Orkney. Motion carried 9-0 by the following vote:

AYES: Burns, Coradeschi, Lewitt, Nye, Orkney, Polan, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Caspary

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR

A Minutes: Special Meeting of July 10, 2023: Approve

Director Polan moved to approve the Consent Calendar. Motion seconded by

Director Shapiro. Motion carried 9-0 by the following vote:

AYES: Burns, Coradeschi, Lewitt, Nye, Orkney, Polan, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Caspary

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A State and Federal Legislative Update

Ana Schwab, federal lobbyist for the JPA with Best Best & Krieger LLP (BBK), reported that there was a possibility there would be a temporary federal government shutdown in October due to the House of Representatives not having approved appropriations bills. She noted that the House of Representatives capped the spending limits at Fiscal Year 2022 levels, which was far below the agreed upon spending limits for Fiscal Years 2024 and 2025. She stated that a continuing resolution would need to be adopted to fund the federal government from October to mid-December, and a temporary federal government shutdown would delay grants from the U.S. Environmental Protection Agency and U.S. Bureau of Reclamation.

Lowry Crook, federal lobbyist for the JPA with BBK, reported that several other pieces of legislation that expire on September 30th would be competing for time and attention, including the Farm Bill and reauthorization of the Federal Aviation Administration.

Ms. Schwab stated that BBK was monitoring the availability of U.S. Bureau of Reclamation Title XVI grants. She reported that over the past few months, the Senate Committee on Environment and Public Works developed draft legislation on per- and polyfluoroalkyl substances (PFAS). She stated BBK submitted comments regarding consideration of a complete product ban, reconsideration of the deadline on the PFAS maximum contaminant levels (MCLs), and consideration of language to protect water and wastewater districts on PFAS cleanup.

Syrus Devers, state lobbyist for the JPA with Syrus Devers Advocacy LLC, reported that water rights bills AB 460 (Bauer-Kahan) and AB 1337 (Wicks) were no longer moving forward, and SB 389 (Allen) was no longer receiving much opposition following the amendments made. He noted that the State Legislature was on summer recess and would reconvene on August 14th.

B Pure Water Project Las Virgenes-Triunfo: Update

Oliver Slosser, Engineering Program Manager, presented the report. He noted that efforts were progressing to reconvene the Independent Advisory Panel and on the issuance of the Request for Proposal for the dye tracer study in Las Virgenes

Reservoir. He also noted that the WateReuse Los Angeles Chapter would meet in the LVMWD Board Room on August 8th. He responded to questions regarding securing financing to ensure cash flow for the Progress Design-Build Procurement, the Request for Proposals for a dye tracer study to validate the reservoir model calibration, the plan to convey brine through the reverse osmosis concentrate pipeline, and the implementation of preformed monochloramine dosing prior to membrane filtration to decrease fouling at the Pure Water Demonstration Facility.

6. ACTION ITEMS

A Proposed Formation of Las Virgenes – Triunfo Public Financing Authority

Review and provide feedback on the proposed Joint Exercise of Pow3ers Agreement between Las Virgenes Municipal Water District and Triunfo Water & Sanitation District to form the Las Virgenes – Triunfo Public Financing Authority.

Don Patterson, Director of Finance and Administration, provided introductory remarks.

Brian Forbath, Bond Counsel representing Stradling Yocca Carlson & Roth, provided a PowerPoint presentation regarding the establishment of the proposed new joint powers financing authority. He responded to a question regarding how the Public Financing Authority could assist either District in future joint or separate financings. agency.

Director Orkney moved to approve Item 6A. Motion seconded by Director Burns. Motion carried 9-0 by the following vote:

AYES: Burns, Coradeschi, Lewitt, Nye, Orkney, Polan, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Caspary

7. BOARD COMMENTS

Director Burns reported that he asked Lindsay Leahy, Water Utilities Director from the City of Oceanside, regarding her availability to provide a presentation on how the Oceanside Pure Water Project was completed in 18 months.

8. ADMINISTERING AGENT/GENERAL MANAGER REPORT

Administering Agent/General Manager David Pedersen reported that Ana Schwab, federal lobbyist for the JPA, would provide a thorough update at the next JPA Board Meeting regarding proposed PFAS regulations, drinking water standards,

and liability issues. He also reported that flow in Malibu Creek measured 9.7 cubic feet per second (CFS), and the average flow per month to the Tapia Water Reclamation Facility was measuring 8.3 million gallons per day (MGD). He also reported that a recycled water main leak occurred in Calabasas south of the 101 Freeway, and demand for compost had increased. He stated that staff was working with the Regional Water Quality Control Board (Regional Board) regarding the time service order issued for the concentration of chloride in the discharge to the Los Angeles River. He noted that the standard reflected in the National Pollution Discharge Elimination System (NPDES) permit was inconsistent with the basin plan, and the chloride discharge levels were not in compliance with the lower standard. He stated that staff had been working with the Regional Board on a solution to this issue, and the previous Regional Board Executive Director committed to a regulatory fix recognizing that chloride levels are higher in the water supply due to drought conditions and the impact of salt from the State Water Project. He also stated that the Regional Board initiated the process to prepare a Site-specific Objective to increase the regulatory standard.

John Zhao, Director Facilities and Operations, responded to a question regarding the chloride discharge levels by stating that discharge was measuring close to 190 milligrams per liter (mg/L) and the standard was 150 mg/L prior to the regulatory fix.

A discussion ensued regarding promoting BBK's PFAS presentation to the community.

9. FUTURE AGENDA ITEMS

None.

10. INFORMATION ITEMS

A RWQCB Settlement Offer R4-2023-0291: Acceptance of Conditional Resolution and Waiver of Right to Hearing

Administering Agent/General Manager David Pedersen responded to a question regarding the Regional Board's assessment of penalties by stating that the Regional Board issued a Notice of Violation and Settlement Offer, and the Clean Water Act required the Regional Board to assess mandatory minimum penalties. He also stated that most of the exceedances were for parameters outside of the JPA's control and for items that are not removed by the treatment process.

John Zhao, Director of Facilities and Operations, stated that all treatment plants in the state were subject to mandatory penalties for exceedances. He noted that the Tapia Water Reclamation Facility was designed to remove biochemical oxygen demands (BODs) and disinfect viruses and bacteria, and the Advanced Water Purification Facility would be designed to remove BODs.

B Rancho Distribution Screw Conveyor No. 1: Purchase Order

11. PUBLIC COMMENTS

None.

12. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **5:47 p.m**.

Jane Nye, Chair

ATTEST:

Jay Lewitt, Vice Chair

AGENDA ITEM NO. 4.B

DATE: September 5, 2023

TO: JPA Board of Directors

FROM: Facilities and Operations

SUBJECT: Tapia WRF 003 Outfall Rehabilitation Project: Authorization of Additional Environmental Support

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SUMMARY:

The 003 Outfall, located adjacent to Tapia Water Reclamation Facility, is used for daily discharge of Tapia groundwater, effluent during high flow periods caused by rain events and flow augmentation to Malibu Creek for protection of endangered species. During the winter of 2019-20, a CCTV inspection revealed holes in the outfall pipeline, together with severe scaling and missing coating in several areas.

In October 2020, Rincon Consultants, Inc. (Rincon), was issued a purchase order to provide environmental support to the District in obtaining Local Coastal Planning (LCP) and California Environmental Quality Act (CEQA) clearances for the project. In January 2021, the Los Angeles County Planning Department, Coastal Development Services informed the JPA that it did not consider the project to be exempt from Coastal Development Permit (CDP) requirements. The determination triggered additional environmental services needed to prepare a CDP application, which was submitted to the Los Angeles County Planning Department in May 2022 and is currently under review.

Rincon continues to support the JPA through the environmental permitting process and is coordinating with MKN & Associates, Inc., to minimize environmental impacts through the project design. At this time, the CDP application has been completed, biological resource reports have been submitted for review and a draft Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared. To expedite and streamline completion of the IS/MND, Rincon's scope of work needs to be amended, in the amount of $18,266, to provide the following additional environmental services: CEQA project management, Assembly Bill 52 consultations, CEQA noticing, County Clerk and State Clearinghouse filings, and coordination with the District's design engineer.

RECOMMENDATION(S):

Authorize the Administering Agent/General Manager to approve Scope Change No. 3, in the amount of $18,266, for Rincon Consultants, Inc., to provide additional environmental support for the Tapia WRF 003 Outfall Rehabilitation Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The cost of the additional work is $18,266. Sufficient funds are available in the adopted Fiscal Year 2023-24 JPA Budget. Funding for the work is allocated 70.6% to LVMWD and 29.4% to TWSD.

DISCUSSION:

One of the capital improvement projects included in the Infrastructure Investment Plan (IIP) is the Tapia WRF 003 Outfall Rehabilitation Project. The 003 discharge point, or outfall, was constructed in 1979 to convey effluent discharged from the Tapia Water Reclamation Facility across Malibu Canyon Road and into Malibu Creek through a constructed wetland. Although the constructed wetland is no longer in operation, the outfall is still necessary to discharge effluent during high flow periods caused by rain events and to dispose of Tapia groundwater pumping discharge. The 003 outfall is also used to supplement flows in Malibu Creek during the summer season to protect endangered species. The outfall consists of a 24-inch, 10-gauge steel pipeline with asphalt coating and wrapping. The outfall is approximately 2,250 linear feet.

Project Progress and Timeline:

- 2019-20 - Staff noticed that discharge was backing up in the 003 outfall, and a CCTV consultant was brought in to conduct a video inspection of the interior of the pipeline. The inspection revealed holes in the pipeline where soil had dropped through, causing water to back up. The CCTV inspection also revealed areas of severe scaling and missing asphalt coating in several areas.
- June 2020 - The JPA Board authorized a professional services agreement with MKN & Associates, Inc. (MKN), for design of repairs to the 003 outfall, in the amount of $80,937.
- October 2020 - Rincon Consultants, Inc. was issued a purchase order, in the amount of $8,970, to provide support to prepare a Coastal Development Permit (CDP) application and assist with CEQA clearance for the project. At the time, it was believed that the project would be exempt from both requirements because the scope of work involves repair of an existing facility.
- January 2021 - The Los Angeles County Planning Department, Coastal Development Services staff informed the JPA that it did not consider the project to be exempt from Coastal Development Permit (CDP) requirements based upon the presence of H1 Habitat, including protected trees, and the potential for the project activities to result in adverse impacts to these resources. Additionally, a CDP could require mitigation to reduce potential impacts to a less-than-significant level, and due to the mitigation, the project would no longer qualify for a CEQA categorical exemption, requiring an Initial Study/Mitigated Negative Declaration (IS/MND).
- January 2021 - MKN completed the design and the final package was placed on hold awaiting environmental review/permitting.
- March 2021 - The JPA Board authorized a professional services agreement, in the amount of $63,981, with Rincon Consultants, Inc., to provide support for the CDP and

CEQA clearance. The scope change included the CDP process requirements for the preparation of Biological Resources Assessments (BRA) Report, Protected Tree Report, Aquatic Resources Delineation Report, CDP application package, tracking, and hearing support. It also included scope for the anticipated IS/MND determination.

- May 2022 - The CDP application was submitted to the Los Angeles County Department of Planning.
- September 2022 - The JPA Board authorized a purchase order, in the amount of $9,890, to Rincon, for additional efforts to obtain a Letter of Authorization from the California State Parks.
- 2022-23 - LCP review of CDP application; new requests from the County for the Arborist and BRA reports.
- November 2022 - The JPA Board authorized a purchase order, in the amount of $37,663, to Rincon for additional requirements associated with the CDP and CEQA clearance.
- May 2023 - Revised Biological Resource and Arborists Reports submitted to the Los Angeles County Planning Department.
- July 2023 - Rincon submitted a draft IS/MND for review and comment.
- August 2023 - Rincon submitted a proposal, in the amount of $18,266, to provide additional CEQA project management, CEQA notification services, AB 52 Tribal Consultation support, and CEQA State Clearinghouse document filing.

Following is a summary of the project costs and fee adjustments:

Description	Cost	Fee with Adjustment	Cumulative Percent Change
Purchase Order	$8,970	---	---
Professional Services Agreement	$63,981	---	---
Scope Change No. 1	$9,890	$73,871	15.4%
Scope Change No. 2	$37,663	$111,534	74.3%
Scope Change No. 3 (proposed)	$18,266	$129,800	103%

GOALS:

Construct, Manage and Maintain all Facilities and Provide Services to Assure System Reliability and Environmental Compatibility

Prepared by: Veronica Hurtado, Water Reclamation Manager

ATTACHMENTS:
Proposal for Scope Change No. 3

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003
805-644-4455

August 2, 2023
Rincon Project No. 20-10352

Veronica Hurtado, Water Reclamation Manager
Las Virgenes-Triunfo Joint Powers Authority
4232 Las Virgenes Road
Calabasas, California 91302
Via email: Vhurtado@lvmwd.com

Subject: Scope Modification Proposal No. 3 for Expanded Support for the Tapia Water Reclamation Facility 003 Outfall Rehabilitation Project

Dear Ms. Hurtado,

The purpose of this letter is to provide a proposal for additional services and amend the existing agreement for the Tapia Water Reclamation Facility 003 Outfall Rehabilitation Project (project) between Rincon Consultants, Inc. (Rincon) and the Las Virgenes-Triunfo Joint Powers Authority (JPA). On May 20, 2021, Rincon's scope of work for the preparation of CEQA documentation in the form of an Initial Study with Mitigated Negative Declaration (IS-MND) was approved by the JPA in the amount of $63,981. Since 2021, two amendments in June 2022 and September 2022, were approved for additional work regarding project design changes, agency processes, and expanded scope to address changes.

Since 2022, the lead agency for the CEQA process has changed from Los Angeles County to the JPA, which is anticipated to streamline the project's CEQA process. Following a July 24, 2023, call with the JPA Project Manager, Rincon was asked to provide a proposal for expanded services encompassing assistance with Assembly Bill 52 (AB 52) consultation and CEQA noticing, which previously would have been done by the County. This proposal also includes additional scope covering previously out-of-scope assistance with project design (i.e., mapping and consultation to avoid oak tree impacts) and expanded project management as the project timeline has been extended. The following sections describe the additional tasks.

Additional Scope of Work

Task 1d Efforts to Minimize Impacts Through Project Design

In the course of addressing Los Angeles County comments on the Biological Resources Assessment (BRA) and Arborist Report, Rincon worked with the JPA and MKN Engineers to minimize impacts to the Tree Protection Zones (TPZ) of protected trees within the project site. By delineating the project's impact area to maximize avoidance of trees protected under the Santa Monica Mountains (SMM) Local Coastal Program (LCP), Rincon has reduced the tree-related mitigation needed, along with its associated costs, and better positioned the project for the County's Environmental Review Board (ERB) process.

Task 4-4 Expanded Project Management

The project's timeline has extended longer than anticipated, resulting in a greater level of management support, including for internal and external coordination, scheduling, and project status reporting. This scope amendment request includes additional effort to continue project management duties through project completion due to an extended project schedule. Rincon will continue to effectively coordinate and communicate to position the project for approval. As part of these additional project management services, Rincon will maintain the environmental quality control plan, track the budget and schedule for environmental approval activities, coordinate with the Rincon team, JPA, Los Angeles County, and other relevant stakeholders, and review project deliverables for conformance with all standards, policies, and procedures.

Task 4-5 Assembly Bill 52 Consultation Support

Under AB 52 (California Government Code Section 21080.3.1[a]), Las Virgenes-Triunfo JPA, as the CEQA lead agency, is required to undertake consultation with California Native American Tribes that are traditionally and culturally affiliated with the project site. If Las Virgenes-Triunfo JPA does not maintain an AB 52 contact list, Rincon will utilize the contact list provided by the California Native American Heritage Commission (NAHC) as part of the Sacred Lands File search conducted in support of the project's cultural resources assessment. Rincon will assist Las Virgenes-Triunfo JPA with AB 52 consultation by providing letter templates in Las Virgenes-Triunfo JPA preferred format, checklists, and detailed instructions to ensure meaningful consultation with interested Native American groups can be completed in accordance with AB 52. After receipt of letters, Native American Tribes have 30 days to reply to a request for consultation under AB 52. Rincon assumes Las Virgenes-Triunfo JPA will officially contact all Tribes that request consultation using the materials prepared by Rincon. This scope of work includes attendance by Rincon at up to two virtual meetings with Native American contacts. Rincon assumes each of these meetings will be one hour in length, require up to one hour of preparation time, and one hour to summarize the meeting notes for circulation. This task does not include Rincon mailing letters to Tribal governments as that is a government-to-government activity which should be undertaken by the CEQA lead agency.

Task 4-6 CEQA Noticing

For the purposes of CEQA, Rincon will prepare a Notice of Intent (NOI) to Adopt the MND in the JPA's preferred format for submittal to the State Clearinghouse along with a Notice of Completion and Summary Form. Rincon will file the NOI with the Los Angeles County Clerk and the NOI, Notice of Completion, and Summary Form with the State Clearinghouse. If needed, Rincon can also assist in developing a mailing list for the JPA to use in distributing the NOI to responsible/trustee agencies and interested parties.

Rincon will prepare and file a Notice of Determination (NOD) form along with applicable filing fees with the Los Angeles County Clerk and State Clearinghouse upon adoption of the Final IS-MND and project approval.

Assumptions

- Rincon's cultural lead will attend up to two virtual meetings with Las Virgenes-Triunfo JPA and Native American contacts during the AB 52 consultation process, assumed to each be one hour in length with one hour of preparation time and one hour to summarize the meeting notes for circulation, for a total of three hours per meeting.

- The JPA will provide signed copies of the AB 52 consultation letters and a filled-in consultation tracker to Rincon for incorporation into the ISMND.
- The JPA will pay all necessary filing fees (including CDFW fees) for the NOI and NOD.

Cost

Rincon will prepare the above deliverables in accordance with the scope of services outlined herein for a cost not-to-exceed **$18,266**, increasing the total contract amount from $114,890 to **$133,156**.

Table 1 Cost Summary

Task		Estimated Cost
Task 1d	Efforts to Minimize Impacts Through Project Design	$6,192
Task 4-4	Expanded Project Management	$5,278
Task 4-5	AB 52 Consultation Support	$4,063
Task 4-6	CEQA Noticing	$2,733
Total Additional Budget Requested		**$18,266**

The proposed scope of services and associated costs are fully negotiable to meet the needs of the JPA. This proposal is valid for a period of 30 days during which time questions may be directed to Katherine Green, Project Manager, at kgreen@rinconconsultants.com or (916) 706-1374. Thank you for your consideration and for this additional opportunity to support your project.

Sincerely,
Rincon Consultants, Inc.

Katherine Green, AICP
Senior Planner

Jennifer Haddow, PhD
Principal Environmental Scientist

Authorized to contractually obligate and negotiate on behalf of Rincon Consultants, Inc.

AGENDA ITEM NO. 5.A

DATE: September 5, 2023

TO: JPA Board of Directors

FROM: Engineering and External Affairs

SUBJECT: Pure Water Project Las Virgenes-Triunfo: Update

SUMMARY:

On August 1, 2016, the JPA Board selected Scenario No. 4, use of Las Virgenes Reservoir for indirect potable reuse, as the preferred alternative for the Recycled Water Seasonal Storage Basis of Design Report. The selected alternative was subsequently renamed the Pure Water Project Las Virgenes-Triunfo. Staff was also directed to report back to the Board on the next steps for implementation of the project.

Staff released a request for proposals (RFP) for Owner's Advisor/Program Manager services for the Pure Water Project Las Virgenes-Triunfo on May 8, 2020. The selection of an Owner's Advisor/Program Manager to support the effort was an important next step to begin implementation of the Pure Water Program. Utilization of an Owner's Advisor/Program Manager is consistent with the approach taken by other public agencies pursuing potable reuse projects of similar scope and complexity. Among the critical elements of the proposed scope are completion of the preliminary design and environmental documentation in support of the Pure Water Program. The scope of work under the contract includes program management, preparation of preliminary design and/or alternative delivery bridging documents, preparation of all environmental studies and documentation for compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), preparation of studies and documents necessary to secure all required regulatory permits, and support of efforts to secure grant funding or low-interest loans.

On September 8, 2020, the JPA Board accepted a proposal from Jacobs Engineering Group, Inc., and authorized the Administering Agent/General Manager to execute a professional services agreement for Owner's Advisor/Program Manager services for the Pure Water Project Las Virgenes-Triunfo. This report serves to provide a summary of the progress to-date on the work performed by Jacobs Engineering Group, Inc., including major monthly milestones, key program accomplishments, key considerations and a look-ahead of upcoming activities.

Prepared by: Eric Schlageter, Principal Engineer

ATTACHMENTS:
Pure Water Project Las Virgenes-Update

To: Las Virgenes-Triunfo JPA Board of Directors

From: Jennifer Phillips, Jacobs

Date: August 21, 2023

Re: Pure Water Project JPA Board Monthly Update

Pure Water Project Overview

The Pure Water Project (PWP) is an opportunity to proactively address three major challenges facing the Las Virgenes-Triunfo JPA:

- comply with more stringent regulatory requirements for discharging to Malibu Creek,
- balance seasonal variation of recycled water demand, and
- create a valuable resource to supplement the region's water supplies, enabled by California's reservoir water augmentation requirements.

By 2030, the plan is to have an operational advanced water purification facility (AWPF) to treat tertiary effluent from the Tapia Water Reclamation Facility for indirect potable reuse, and convey the product water to the Las Virgenes Reservoir, where it will be blended with Metropolitan Water District (MWD) supply. The current phase (Phase 1) of the project provides the programmatic process to manage such a large, complicated project, focusing on the technical, regulatory, environmental, financial, and procurement strategies to provide a foundation with more cost and project delivery clarity. Each month the Project team will provide a status report to communicate major milestones, accomplishments for the previous month, planned work for the next month, and potential challenges.

Monthly Major Milestones

- Submitted the 1211 wastewater change petition application to the State Water Resources Control Board.

Key Program Accomplishments Last Month

Following is a summary of the key August 2023 program accomplishments:

Technical:

- Received one proposal in response to the Request for Proposal (RFP) for a dye-tracer study in Las Virgenes Reservoir to validate the reservoir model calibration.
- Received and negotiated a letter proposal from Flow Science Incorporated to perform validation and additional scenario modeling to evaluate the hydrodynamics of Las Virgenes Reservoir.
- Presented the findings from the Enhanced Source Control Plan evaluation to LVMWD staff.
- Continued support for the Demonstration Facility to review performance data trends and share insights.

Regulatory/Environmental:

- Finalized and submitted the 1211 wastewater change petition application to the State Water Resources Control Board.

Financial:

- Continued development of the Water Infrastructure Finance and Innovation Act (WIFIA) loan application, which has a submittal deadline of December 31, 2023.
- Continued tracking of funding options and supporting LVMWD staff, as needed.

Procurement:

- Held the confidential technical meetings with the short-listed teams for the Progressive Design-Build (PDB) procurement of the new AWPF and Reverse Osmosis Concentrate (ROC) pipeline.
- Addressed questions from the PDB proposers.

Look Ahead

The Project Team is focused on the following activities for September:

- Continue activities for the PDB procurement of the new AWPF and ROC pipeline.
- Support performance trending for the Demonstration Facility.
- Support development of funding applications.
- Hold quarterly meeting with the Regional Water Quality Control Board.
- Progress the reservoir dye-tracer study work.

Las Virgenes-Triunfo Water District

August 28, 2023

John Freshman, Ana Schwab, Lowry Crook, and Samantha Sabol

Congress

Congress Looks to Pass the Budget Before September 30th Deadline

Both the House and Senate have been out of session through the month of August, with the Senate returning September 5th and the House returning September 12th. This leaves only three weeks in D.C. to pass all 12 appropriations bills before the Fiscal Year ends on September 30th. In the House, appropriators have set spending levels significantly lower than what was determined in the Fiscal Responsibility Act, while the Senate has been complying with levels passed in the compromise. 11 of the 12 bills have been passed out of Committee in the House, with the Agriculture bill still awaiting Committee consideration. Committee Republicans are still working to get the votes needed to pass the bill before it is considered on the House Floor.

In the Senate, Appropriations bills have stayed within the levels agreed to in the Fiscal Responsibility Act. All 12 have passed through Committee, each with strong bipartisan support, and now await Floor consideration.

Congress will face significant challenges in passing the FY24 budget by the September 30th deadline. In the House, Speaker McCarthy will facing an uphill battle in passing legislation. The Speaker has received opposition from the Democratic party, and even more difficult pushback within his own party. Disagreement over cuts to spending and partisan issues, will make a bill difficult to pass in the House. Looking at both chambers, the discrepancy on spending levels will pose challenges in passing a final bill in both the House and the Senate. Members of Congress are bracing for a potential government shutdown or a Continuing Resolution, while House and Senate Leadership are working to avoid this outcome.

Additional Legislative Goals

In addition to the FY24 budget, Congress has additional large pieces of legislation that must be passed, including the National Defense Authorization Act (NDAA), the FAA reauthorization, and the Farm Bill. Senate Majority Leader Chuck Schumer has stated he is also looking to pass other bipartisan items before the end of the year, such as legislation to address the dangers of fentanyl trafficking and a bill to address railway safety following the train derailment in Ohio earlier this year. A bipartisan group of Senators, including Schumer, are looking to pass the SAFE Banking Act, which would allow federally regulated banks to provide services to cannabis companies. Last on Majority Leader's list is to pass legislation on drug-pricing reform to cap insulin prices. This initiative has also received strong bipartisan support in the Senate, and has potential to pass.

Federal Budget/Appropriations

Senate Appropriations Committee Marks-Up FY2024 Energy and Water Appropriations Bill

The FY24 Senate Energy and Water Appropriations Bill was favorably reported on July 20, 2023 from the Committee. This bill contained significant funding provisions for both the Corps of Engineers and the Bureau of Reclamation, along with Congressionally Directed Spending Measures.

For the Corps of Engineers, the bill allocates a total of $8.93 billion, providing historic funding levels to maintain ports and harbors to enhance competitiveness and ensure the safety of communities against extreme weather events. Notably, the bill includes a substantial $2.77 billion for the Harbor Maintenance Trust Fund, a long-standing priority for Chairwoman Patty Murray (D-WA). This funding aims to improve navigation through dredging ports, maintain waterways, and facilitate the transportation of essential goods and people.

The bill provides $1.92 billion for the Bureau of Reclamation to strengthen efforts to combat drought in the western United States. The funding focuses on delivering reliable water and hydroelectric power to support irrigation for crops that feed families nationwide. The bill dedicates $186 million to Western drought programs under the Water Infrastructure Improvements for the Nation (WIIN) Act. These programs support long-term

drought strategies, including water storage, recycling, reuse, and desalination. Furthermore, the bill allocates funds to support rural water supply projects and critical grant programs that invest in research and innovative applications of water-saving technologies.

Administration/Agency

Department of Defense Releases Guidelines for PFAS Cleanup

On July 11th, 2023, the PFAS Task Force within the Department of Defense issued policies and guidance for PFAS cleanup and management. The Task Force release three documents outlining the strategy for future efforts. The first document outlines expedited cleanup measures, specifically at sites known as "hot spots" and areas with the highest risk of exposure. Steps include installing groundwater extraction systems to prevent PFAS spread and preventing contamination of groundwater. The second document provides guidance on PFAS disposal, outlining four options: carbon reactivation, hazardous waste landfills, solid waste landfills, hazardous waste incinerators. The third document updates criteria for the monitoring on PFAS by increasing sampling and reporting data. It also adapts the most recent methods from the Environmental Protection Agency (EPA) to collect samples.

OMB Reviews WOTUS rule

On August 17th, 2023 the White House Office of Management and Budget completed its review of the proposed rule resulting from the Supreme Court ruling in Sackett v. EPA defining Waters of the United States (WOTUS). The final rule was issued by the Environmental Protection Agency (EPA) and the Army Corps of Engineers. The OMB review continues progress for adoption of the revised rule that narrows the scope of WOTUS jurisdiction, which is intended to be released on September 1st.

Background:
On May 25, 2023, the U.S. Supreme Court announced a five-Justice Majority decision in the case of Sackett v. Environmental Protection Agency. Justice Alito, writing for the majority, stated that the Clean Water Act only applies to "'wetlands with a continuous surface

connection to the bodies that are 'waters of the United States' in their own right,' so that they are 'indistinguishable' from those waters."

The Majority opinion ended the "significant nexus" test for jurisdictional waters and wetlands from Justice Kennedy's plurality opinion in the 2006 decision Rapanos v. United States. Justice Alito and the majority largely adopted a narrower test proposed in Justice Scalia's four-justice opinion in Rapanos test to determine the meaning of "the waters of the United States" that are protected by the federal Clean Water Act. The two prong-test to determine jurisdiction over an adjacent wetland requires (1) "that the adjacent [body of water constitutes]…'water[s] of the United States' (i.e. a relatively permanent body of water connected to traditional interstate navigable waters)" and (2) "that the wetland has a continuous surface connection with water, making it difficult to determine where the 'water' ends and the 'wetland' begins," or that it is "indistinguishable" from the water.

Funding Opportunities

Department of Interior – Bureau of Reclamation

The Bureau of Reclamation opened their WaterSMART: Water Conservation Field Services Program to support projects and technology that conserve water and work to mitigate the consequences of water shortages. This opportunity is open to states, tribes, irrigation districts, water districts, and other organizations with water or power delivery authority, that are located in the Lower Basin States, or the State of Hawaii, American Samoa, Guam, and the Northern Mariana Islands. The award ceiling is $100,000 for any one entity. The application deadline is **October 13, 2023**. More information can be found here.

The Bureau of Reclamation opened the WaterSMART: Aquatic Ecosystem Restoration Projects opportunity. This grant will support the study, design, and implementation of restoration projects that improve the health and ecosystem for fish, wildlife, and aquatic habitats. Applications are due **January 24, 2023**. More information can be found here.
The Bureau of Reclamation opened their funding opportunity for WaterSMART: Planning and Project Design. This grant opportunity is available to assist in improving water management operations, and planning activities related to water supply. This includes water access for disadvantaged communities, project-specific design elements, and comprehensive drought contingency plans. Proposals received prior before Tuesday,

October 17, 2023, at 4:00 p.m. (MT) will be considered for FY 2023 funding. Proposals received after October 17, 2023, and before April 2, 2024, at 4:00 p.m. (MT) will be considered for FY 2024 funding, contingent on appropriations. More information can be found here.

The Bureau of Reclamation opened the funding opportunity for the WaterSMART Drought Response Program. This opportunity is available to increase water management resiliency, and to address the impacts of water supply shortages. Projects should increase reliability of water supply, improve water management, or construction of water supply projects. Applications are due October 31, 2023. More information can be found here.

Department of Interior – Fish and Wildlife Service

The Department of Interior published their Wildland Urban Interface Community Fire Assistance program through the Department of Fish and Wildlife Service. This opportunity will support implementation of the National Cohesive Wildland Fire Management Strategy and support wildfire prevention strategies. The funding opportunity can be used for planning and implementation, strengthening already existing opportunities, and providing education and awareness of issues in rural areas. Applications are due September 1, 2023. More information can be found here.

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August 2023 Bill Tracking Matrix

Legislation	Summary	Status	Cosponsors	# of Cosponsors
H.R. 186 Water Supply Permitting Coordination Act	To authorize the Secretary of the Interior to coordinate Federal and State permitting processes related to the construction of new surface water storage projects on lands under the jurisdiction of the Secretary of the Interior and the Secretary of Agriculture and to designate the Bureau of Reclamation as the lead agency for permit processing, and for other purposes.	01/09/2023 Introduced by Rep. Tom McClintock (R-CA-4) 2/21/2023 Referred to the Subcommittee on Water, Wildlife, and Fisheries.	**Rep. Doug LaMalfa (R-CA-1); Rep. David Valadao (R-CA-21);** Rep. Cliff Bentz (R-OR-2); Rep. Burgess Owens (R-UT-4); Rep. Pete Stauber (R-MN-8);	5
H.R. 215 WATER for California Act	To provide long-term water supply and regulatory reliability to drought-stricken California, and for other purposes.	1/09/2023 Introduced by Rep. David Valadao (R-CA-21) 4/28/2023 Subcommittee on Water, Wildlife, and Fisheries Discharged.	**Rep. Ken Calvert (R-CA-42); Rep. John Duarte (R-CA-13); Rep. Mike Garcia (R-CA-25); Rep. Darrell Issa (R-CA-50); Rep. Kevin Kiley (R-CA-3); Rep. Young Kim (R-CA-39); Rep. Doug LaMalfa (R-CA-1); Rep.**	11
H.R. 250 Clean Water SRF Parity Act	This bill expands the state revolving fund established under the Clean Water Act, including by allowing low-interest loans to be given to privately owned treatment works to address wastewater. Currently, loans are given to wastewater systems that are publicly owned.	01/10/2023 Introduced by Rep. John Garamendi (D-CA-8) 02/01/2023 Referred to the Subcommittee on Water Resources and Environment.	Rep. Mike Bost (R-IL-12); Rep. Donald Norcross (D-NJ-1); Rep. Abigail Spanberger (D-VA-7)	3
H.R. 369 NIST Wildland Fire Communications and Information Dissemination Act	To require the National Institute of Standards and Technology to conduct research on public safety communication coordination standards among wildland firefighters and fire management response officials.	01/17/2023 Introduced by Rep. Young Kim (R-CA-40) 06/21/2023 Committee Consideration and Mark-up Session Held	**Rep. Mike Garcia (R-CA-25)**; Rep. Teresa Leger Fernandez (D-NM-3); Rep. Joe Neguse (D-CO-2); Rep. Melanie Ann Stansbury (D-NM-1)	4
S. 64 Water Rights Protection Act of 2023	A bill to prohibit the conditioning of any permit, lease, or other use agreement on the transfer of any water right to the United States by the Secretary of the Interior and the Secretary of Agriculture, and for other purposes.	01/25/2023 Introduced by Senator John Barrasso (R-WY) 01/25/2023 Referred to the Committee on Energy and Natural Resources.	Sen. Mike Crapo (R-ID); Sen. James Risch (R-ID)	2
S. 188 Wildfire Emergency Act of 2023	A bill to direct the Secretary of Agriculture to select and implement landscape-scale forest restoration projects, to assist communities in increasing their resilience to wildfire, and for other purposes.	01/31/2023 Introduced by Senator Dianne Feinstein (D-CA) 01/31/2023 Referred to the Committee on Energy and Natural Resources.	**Sen. Alex Padilla (D-CA)**; Sen. Steve Daines (R-MT); Sen. Ron Wyden (D-OR)	3
H.J.Res 27 Providing for congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Department of the Army, Corps of Engineers, Department of Defense and the Environmental Protection Agency relating to 'Revised Definition of 'Waters of the United States''.	This joint resolution nullifies the rule titled Revised Definition of "Waters of the United States," which was submitted by the U.S. Army Corps of Engineers and the Environmental Protection Agency on January 18, 2023. The rule specifies which bodies of water fall under the scope of the Clean Water Act and are thereby under federal jurisdiction and protected. For example, the definition in the 2023 rule includes certain wetlands and ephemeral waters (e.g., waters that flow intermittently). The 2023 rule replaced the 2020 Navigable Waters Protection Rule that included a narrower definition of waters of the United States.	02/02/2023 Introduced by Rep. Sam Graves (R-MO-06). 04/18/2023 The Chair directed the Clerk to notify the Senate of the action of the House.	**Rep. Ken Calvert (R-CA-42); Rep. John Duarte (R-CA-13); Rep. Mike Garcia (R-CA-25); Rep. Darrell Issa (R-CA-50); Rep. Kevin Kiley (R-CA-3); Rep. Doug LaMalfa (R-CA-1); Rep. Tom McClintock (R-CA-4); Rep. David Valadao (R-CA-21);** Rep. Robert Aderholt (R-AL-4); Rep. Mark Alford (R-MO-4); Rep. Rick Allen (R-GA-12); Rep. Mark Amodei (R-NV-2); Rep. Kelly Armstrong (R-ND-1); Rep. Jodey	170
S.J. Res. 7 A joint resolution providing for congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Department of the Army, Corps of Engineers, Department of Defense and the Environmental Protection Agency relating to 'Revised Definition of 'Waters of the United States''.	This joint resolution nullifies the rule titled Revised Definition of "Waters of the United States," which was submitted by the U.S. Army Corps of Engineers and the Environmental Protection Agency on January 18, 2023. The rule specifies which bodies of water fall under the scope of the Clean Water Act and are thereby under federal jurisdiction. The 2023 rule replaced a 2020 rule that included a narrower definition of waters of the United States.	02/02/2023 Introduced By Senator Shelley Moore Capito (R-WV). 02/13/2023 Star Print ordered on the joint resolution.	Sen. John Barrasso (R-WY); Sen. Marsha Blackburn (R-TN); Sen. John Boozman (R-AR); Sen. Mike Braun (R-IN); Sen. Katie Britt (R-AL); Sen. Ted Budd (R-NC); Sen. Bill Cassidy (R-LA); Sen. Susan Collins (R-ME); Sen. John Cornyn (R-TX); Sen. Thomas Cotton (R-AR); Sen. Kevin Cramer (R-ND); Sen. Mike Crapo (R-ID); Sen. Ted Cruz (R-TX); Sen. Steve Daines (R-MT); Sen. Joni Ernst (R-IA);	49

H.R. 872 FISH Act	This bill gives the Fish and Wildlife Service (FWS) the sole authority to protect endangered or threatened species that are anadromous species (species of fish that spawn in fresh or estuarine waters and that migrate to ocean waters) or catadromous species (species of fish that spawn in ocean waters and migrate to fresh or estuarine waters). Currently, the FWS shares this authority with the National Marine Fisheries Service.	02/08/23 Introduced by Rep. Ken Calvert (R-CA-41) 02/21/23 Referred to the Subcommittee on Water, Wildlife, and Fisheries.	**Rep. Jim Costa (D-CA-16); Rep. Darrell Issa (R-CA-50); Rep. Doug LaMalfa (R-CA-1); Rep. Tom McClintock (R-CA-4); Rep. Jay Obernolte (R-CA-8); Rep. Michelle Steel (R-CA-48);** Rep. Mike Simpson (R-ID-2);	7
H.R. 873 Water Quality and Environmental Innovation Act	To authorize the Administrator of the Environmental Protection Agency to award grants and contracts for projects that use emerging technologies to address threats to water quality, and for other purposes.	02/08/2023 Introduced by Rep. Byron Donalds (R-FL-19) Referred to the Committee on Transportation and Infrastructure, and in addition to the Committees on Energy and Commerce, and Science, Space, and Technology.	Rep. Josh Gottheimer (D-NJ-5)	1
H.R.934 To require the Secretary of Agriculture to carry out activities to suppress wildfires, and for other purposes	This bill would require the Secretary of Agriculture to carry out activities to suppress wildfires, and for other purposes	02/09/2023 Introduced by Rep. Tom McClintock (R-CA-5) 05/23/2023 Subcommittee Hearings Held	**Rep. Ken Calvert (R-CA-42); Rep. John Duarte (R-CA-13); Rep. Darrell Issa (R-CA-50); Rep. Doug LaMalfa (R-CA-1); Rep. Jay Obernolte (R-CA-8);** Rep. Daniel Newhouse (R-WA-4)	6
H.R. 1049 Protecting Airport Communities from Particle Emissions Act	To direct the Administrator of the Federal Aviation Administration to conduct a study relating to ultrafine particles, and for other purposes.	02/14/2023 Introduced by Rep. Adam Smith (D-WA-9) 02/24/23 Referred to the Subcommittee on Environment, Manufacturing, and Critical Materials.	Rep. Suzan DelBene (D-WA-1); Rep. Pramila Jayapal (D-WA-7); Rep. Grace Meng (D-NY-6); Rep. Eleanor Norton (D-DC-1)	4
S.466 Federal PFAS Research Evaluation Act	The bill requires the National Science Foundation (NSF) to enter into an agreement with the National Academies of Sciences, Engineering, and Medicine (NASEM) to conduct a two-phase study and report on the research and development needed to advance human exposure estimation and toxicity hazard estimation of individual or total PFAS.	02/16/2023 Introduced by Sen. Gary Peters (D-MI) 02/16/2023 Read twice and referred to the Committee on Commerce, Science, and Transportation	Sen. Richard Durbin (D-IL); Sen. Jerry Moran (R-KS); Sen. Jeanne Shaheen (D-NH)	3
H.R.1142 - To amend the Endangered Species Act of 1973 to require consideration of economic impact in making a listing decision with respect to the list of threatened and endangered species, and for other purposes.	This bill would amend the Endangered Species Act of 1973 to require consideration of economic impact in making a listing decision with respect to the list of threatened and endangered species, and for other purposes.	02/21/2023 Introduced by Rep. August Pfluger (R-TX-11) 03/22/2023 Referred to the Subcommittee on Water, Wildlife, and Fisheries.	**Rep. Tom McClintock (R-CA-4);** Rep. Ronny Jackson (R-TX-13); Rep. Tracey Mann (R-KS-1); Rep. Greg Steube (R-FL-17)	4
H.R. 1152 Water Quality Certification and Energy Project Improvement Act of 2023	This bill would amend the Federal Water Pollution Control Act to make changes with respect to water quality certification, and for other purposes.	02/24/2023 Introduced by Rep. David Rouzer (R-NC-7) 03/17/2023 Reported by the Committee on Transportation and Infrastructure. H. Rept. 118-10.	Rep. Garret Graves (R-LA-6); Rep. Scott Perry (R-PA-10)	2
H.R. 1181 To amend the Federal Water Pollution Control Act with respect to permitting terms, and for other purposes.	This bill extends the maximum term for certain permits issued under the National Pollutant Discharge Elimination System (NPDES) program. Specifically, the bill extends the maximum term for NPDES permits issued to states or municipalities from 5 to 10 years. Under the program, the Environmental Protection Agency issues permits to discharge pollutants from point sources, such as pipes, into waters of the United States.	02/24/2023 Introduced by Rep. John Garamendi (D-CA-8) 02/27/2023 Referred to the Subcommittee on Water Resources and Environment.	**Rep. Eric Swalwell (D-CA-15); Rep. Ken Calvert (R-CA-42);** Rep. Andre Carson (D-IN-7); Rep. Garret Graves (R-LA-6);	4
H.R. 1430 Determination of NEPA Adequacy Streamlining Act	This bill would direct the Secretary of the Interior and the Secretary of Agriculture to use certain previously completed environmental assessments and environmental impact statements to satisfy the review requirements of the National Environmental Policy Act of 1969, and for other purposes.	03/07/2023 Introduced by Rep. David Valadao (R-CA-21) 04/25/2023 Referred to the Subcommittee on Forestry.		0
H.R.1517 Relief for Farmers Hit with PFAS Act	This bill would authorize the Secretary of Agriculture to provide grants to States, territories, and Indian Tribes to address contamination by perfluoroalkyl and polyfluoroalkyl substances on farms, and for other purposes.	03/09/2023 Introduced by Rep. Chellie Pingree (D-ME-1) 03/09/2023 Referred to the House Committee on Agriculture	Rep. Teresa Leger Fernandez (D-NM-3); Rep. Jared Golden (D-ME-2); Rep. Marie Perez (D-WA-3); Rep. Elissa Slotkin (D-MI-8)	4

S.747 Relief for Farmers Hit with PFAS Act	This bill would authorize the Secretary of Agriculture to provide grants to States, territories, and Indian Tribes to address contamination by perfluoroalkyl and polyfluoroalkyl substances on farms, and for other purposes.	03/09/2023 Introduced by Sen Susan Collins (R-ME) 03/09/2023 Read twice and referred to the Committee on Agriculture, Nutrition, and Forestry	Sen. Tammy Baldwin (D-WI); Sen. Kirsten Gillibrand (D-NY); Sen. Maggie Hassan (D-NH); Sen. Angus King (I-ME); Sen. Ben Lujan (D-NM); Sen. Bernie Sanders (I-VT); Sen. Jeanne Shaheen (D-NH)	7
H.R. 1586 Forest Protection and Wildland Firefighter Safety Act of 2023	This bill would allow the Secretary of the Interior and the Secretary of Agriculture to use a fire retardant, chemical, or water for fire suppression, control, or prevention activities.	3/14/2023 Introduced by Rep. Doug LaMalfa (R-CA-1) 05/17/2023 Ordered to be Reported - House Committee on Natural Resources	**Rep. Jay Obernolte (R-CA-8); Rep. David Valadao (R-CA-21); Rep. Ken Calvert (R-CA-42); Rep. Jim Costa (D-CA-16); Rep. Rick Crawford (R-AR-1); Rep. John Duarte (R-CA-13); ; Rep. John Garamendi (D-CA-3);**	30
H.R. 1 Lower Energy Costs Act	To lower energy costs by increasing American energy production, exports, infrastructure, and critical minerals processing, by promoting transparency, accountability, permitting, and production of American resources, and by improving water quality certification and energy projects, and for other purposes.	03/14/2023 Introduced by Rep. Steve Scalise (R-LA-1) 03/30/2023 The Clerk was authorized to correct section numbers, punctuation, and cross references, and to make other necessary technical and conforming corrections in the engrossment of H.R. 1.	**Rep. Tom McClintock (R-CA-4);** Rep. Robert Aderholt (R-AL-4); Rep. Rick Allen (R-GA-12); Rep. Kelly Armstrong (R-ND-1); Rep. Troy Balderson (R-OH-12); Rep. Lauren Boebert (R-CO-3); Rep. Michael Burgess (R-TX-26); Rep. Kat Cammack (R-FL-3); Rep. Mike Carey (R-OH-15); Rep. Buddy Carter (R-GA-1); Rep. Dan Crenshaw (R-TX-2); Rep. John	49
S. 820 Protecting Consumers from PFAS Act	This bill would require the Consumer Product Safety Commission (CPSC) to be added to the Administration interagency work group that coordinates federally funded PFAS research and development.	03/15/2023 Introduced by Sen. Gary Peters (D-MI) 06/14/2023 Committee on Homeland Security and Governmental Affairs. Ordered to be reported with an amendment favorably.	Burgess (R TX-26) **R**e Sen. Susan Collins (-ME); Sen. Cynthia Lummis (R-WY); Sen. Peter Welch (D-VT)	3
H.R.1729 Water Affordability, Transparency, Equity, and Reliability Act	This bill would establish a trust fund to provide for adequate funding for water and sewer infrastructure, and for other purposes.	03/22/2023 Introduced by Rep. Bonnie Watson Coleman (D-NJ-12) 04/25/2023 Referred to the Subcommittee on Commodity Markets, Digital Assets, and Rural Development.	**Rep. Kevin Mullin (D-CA-15); Rep. Jimmy Panetta (D-CA-20); Rep. Ro Khanna (D-CA-17); Rep. Barbara Lee (D-CA-13); Rep. Ted Lieu (D-CA-33); Rep. Doris Matsui (D-CA-6); Rep. Sara Jacobs (D-CA-53); Rep.**	75
H.R. 1740 To amend the Water Infrastructure Finance and Innovation Act of 2014 to establish payment and performance security requirements for projects, and for other purposes.	To amend the Water Infrastructure Finance and Innovation Act of 2014 to establish payment and performance security requirements for projects, and for other purposes.	3/23/2023 Introduced by Rep. Mike Bost (R-IL-12). 03/31/2023 Referred to the Subcommittee on Environment, Manufacturing, and Critical Materials.	Rep. Troy Balderson (R-OH-12); Rep. Stephen Lynch (D-MA-8); Rep. Chris Pappas (D-NH-1); Rep. Donald Payne (D-NJ-10); Rep. Daniel Webster (R-FL-10)	5
S. 1022 Define WOTUS Act of 2023	This bill would amend the Federal Water Pollution Control Act to modify the definition of navigable waters, and for other purposes.	03/29/2023 Introduced by Sen. Mike Braun (R-IN) 03/29/2023 Read twice and referred to the Committee on Environment and Public Works.	Sen. Joni Ernst (R-IA); Sen. Chuck Grassley (R-IA)	2
H.R. 2419 Canal Conveyance Capacity Restoration Act	This bill would provide financial assistance for projects to address certain subsidence impacts in the State of California, and for other purposes.	03/30/2023 Introduced by Rep. Jim Costa (D-CA-16) 05/08/2023 Referred to the Subcommittee on Water, Wildlife, and Fisheries.	**Rep. John Garamendi (D-CA-3); Rep. Josh Harder (D-CA-10)**	2
H.R.2670 National Defense Authorization Act for Fiscal Year 2024	This bill authorizes FY2024 appropriations and sets forth policies for Department of Defense (DOD) programs and activities, military construction, and the national security programs of the Department of Energy (DOE). The bill authorizes appropriations, but does not provide budget authority, which is provided by appropriations legislation.	04/18/2023 Introduced by Rep. Mike Rogers (R-AL-3) 07/14/2023 On passage Passed by the Yeas and Nays: 219 - 210	Rep. Adam Smith (D-WA-9)	1

H.R. 2735 Coastal State Climate Preparedness Act of 2023	This bill directs the Department of Commerce to establish a coastal climate change adaptation preparedness and response program. Under the program, Commerce must (1) assist coastal states with voluntarily developing coastal climate change adaptation plans, and (2) provide financial and technical assistance as well as training for coastal states to implement the adaptation plans.	04/20/2023 Introduced by Rep. Salud Carbajal (D-CA-24) 05/22/2023 Referred to the Subcommittee on Water, Wildlife, and Fisheries	**Rep. Ted Lieu (D-CA-33);** Rep. Brian Fitzpatrick (R-PA-1);	2
H.R. 2787 To amend the Consolidated Farm and Rural Development Act to modify provisions relating to rural decentralized water systems grants.	This bill would amend the Consolidated Farm and Rural Development Act to modify provisions relating to rural decentralized water systems grants.	04/20/2023 Introduced by Rep. Terri Sewell (D-AL-7) 05/15/2023 Referred to the Subcommittee on Commodity Markets, Digital Assets, and Rural Development.	Rep. Mike Rogers (R-AL-3)	1
H.R. 2811 Limit, Save, Grow Act of 2023	This bill increases the federal debt limit and decreases spending. It also repeals several energy tax credits, modifies the permitting process and other requirements for energy projects, expands work requirements for the Supplemental Nutrition Assistance Program (SNAP) and other programs, and nullifies regulations for the cancellation of federal student loan debt.	04/25/2023 Introduced by Rep. Jodey Arrington (R-TX-19) 05/04/2023 Committee on the Budget. Hearings held.	**Rep. Rep. Tom McClintock (R-CA-4)**; Rep. Stephanie Bice (R-OK-5); Rep. Michael Burgess (R-TX-26); Rep. Buddy Carter (R-GA-1); Rep. James Comer (R-KY-1); Rep. Chuck Edwards (R-NC-11); Rep. Virginia Foxx (R-NC-5); Kay Granger (R-TX-12); Rep. Sam	19
S.1360 PFAS Exposure Assessment and Documentation Act	This bill would require DOD to ensure that any periodic health assessment, physical assessment for recently separated members, pre-deployment medical examination, post-deployment medical examination, and post-deployment health reassessment provided to a member of the Armed Forces includes an evaluation of whether the member has been exposed to PFAS or was based or stationed at a military installation with a known or suspected release of PFAS during the period the member was there.	04/27/2023 Introduced by Sen. Jeanne Shaheen (D-NH) 04/27/2023 Read twice and referred to the Committee on Armed Services		0
H.R.3027 Reclamation Climate Change and Water Program Reauthorization Act	This bill would reauthorize funding for the Reclamation Climate Change and Water Program.	04/28/2023 Introduced by Rep. Katie Porter (D-CA-47) 06/14/2023 Subcommittee Hearings Held	**Rep. Sydney Kamlager (D-CA-37); Rep. Mike Levin (D-CA-49); Rep. Zoe Lofgren (D-CA-19); Rep. Grace Napolitano (D-CA-32)**; Rep. Melanie Ann Stansbury (D-NM-1); Rep. Earl	8
S.1427 Agriculture PFAS Liability Protection Act	This bill would exempt certain entities from liability under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 with respect to releases of perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.	05/03/2023 Introduced by Sen. Cynthia Lummis (R-WY) 05/03/2023 Read twice and referred to the Committee on Environment and Public Works.	Sen. John Boozman (R-AR); Sen. Kevin Cramer (R-ND); Sen. Lindsey Graham (R-SC); Sen. Markwayne Mullin (R-OK); Sen. Pete Ricketts (R-NE); Sen. Dan Sullivan (R-AK); Sen. Roger Wicker (R-MS)	7
S. 1429 Resource Management PFAS Liability Protection Act	This bill would exempt certain entities from liability under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 with respect to releases of perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.	05/03/2023 Introduced by Sen. Cynthia Lummis (R-WY) 05/03/2023 Read twice and referred to the Committee on Environment and Public Works.	Sen. John Boozman (R-AR); Sen. Kevin Cramer (R-ND); Sen. Lindsey Graham (R-SC); Sen. Markwayne Mullin (R-OK); Sen. Pete Ricketts (R-NE); Sen. Dan Sullivan (R-AK); Sen. Roger Wicker (R-MS)	7
S. 1430 Water Systems PFAS Liability Protection Act	This bill would exempt certain entities from liability under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 with respect to releases of perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.	05/03/2023 Introduced by Sen. Cynthia Lummis (R-WY) 05/03/2023 Read twice and referred to the Committee on Environment and Public Works.	Sen. John Boozman (R-AR); Sen. Kevin Cramer (R-ND); Sen. Lindsey Graham (R-SC); Sen. Markwayne Mullin (R-OK); Sen. Pete Ricketts (R-NE); Sen. Dan Sullivan (R-AK); Sen. Roger Wicker (R-MS)	7
S.1432 Fire Suppression PFAS Liability Protection Act	This bill would exempt certain entities from liability under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 for the release of certain perfluoroalkyl or polyfluoroalkyl substances, and for other purposes.	05/03/2023 Introduced by Sen. Cynthia Lummis (R-WY) 05/03/2023 Read twice and referred to the Committee on Environment and Public Works	Sen. John Boozman (R-AR); Sen. Kevin Cramer (R-ND); Sen. Lindsey Graham (R-SC); Sen. Markwayne Mullin (R-OK); Sen. Pete Ricketts (R-NE); Sen. Dan Sullivan (R-AK); Sen. Roger Wicker (R-MS)	7

S.1433 Airports PFAS Liability Protection Act	This bill would exempt certain aviation entities from liability under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 for the release of certain perfluoroalkyl or polyfluoroalkyl substances, and for other purposes.	05/03/2023 Introduced by Sen. Cynthia Lummis (R-WY) 05/03/2023 Read twice and referred to the Committee on Environment and Public Works	Sen. John Boozman (R-AR); Sen. Kevin Cramer (R-ND); Sen. Lindsey Graham (R-SC); Sen. Markwayne Mullin (R-OK); Sen. Pete Ricketts (R-NE); Sen. Dan Sullivan (R-AK); Sen. Roger Wicker (R-MS)	7
S. 1449 RESTART Act	This bill seeks to improve the environmental review process, and for other purposes.	05/04/2023 Introduced by Sen. Shelley Capito (R-WV) 05/04/2023 Read twice and referred to the Committee on Environment and Public Works.	Sen. John Barrasso (R-WY); Sen. John Boozman (R-AR); Sen. Kevin Cramer (R-ND); Sen. Lindsey Graham (R-SC); Sen. James Lankford (R-OK); Sen. Cynthia Lummis (R-WY); Sen. Pete Ricketts (R-NE); Sen. James Risch (R-ID); Sen. Dan Sullivan (R-AK); Sen. Roger Wicker (R-MS)	10
S.1456 SPUR Act	This bill would provide for certain energy development, permitting reforms, and for other purposes.	05/04/2023 Introduced by Sen. Joh Barrasso (R-WY) 05/04/2023 Read twice and referred to the Committee on Energy and Natural Resources.	Sen. Shelley Capito (R-WV); Sen. Bill Cassidy (R-LA); Sen. Steve Daines (R-MT); Sen. Josh Hawley (R-MO); Sen. John Hoeven (R-ND); Sen. Cindy Hyde-Smith (R-MS); Sen. James Lankford (R-OK); Sen. Mike Lee	10
H.R.3192 PFAS Registry Act	This bill would require the Secretary of Veterans Affairs to establish and maintain a registry for certain individuals who may have been exposed to per- and polyfluoroalkyl substances due to the environmental release of aqueous film-forming foam on military installations.	05/10/2023 Introduced by Rep. Chris Pappas (D-NH-1) 05/26/2023 Referred to the Subcommittee on Health	Rep. Brian Fitzpatrick (R-PA-1); Rep. Ann Kuster (D-NH-2); Rep. Mike Lawler (R-NY-17)	3
H.R.3389 Emergency Wildfire Fighting Technology Act	This bill would require the Secretary of Agriculture, acting through the Chief of the Forest Service, and the Secretary of the Interior to conduct an evaluation with respect to the use of the container aerial firefighting system (CAFFS), and for other purposes.	05/16/2022 Introduced by Rep. David Valadao (R-CA-22) 06/23/2023 Referred to the Subcommittee on Forestry	**Rep. Jim Costa (D-CA-16); Rep. Mike Garcia (R-CA-25); Rep. Josh Harder (D-CA-10); Rep. Darrell Issa (R-CA-50); Rep. Kevin Kiley (R-CA-3)**; Rep. Doug Lamborn (R-CO-5); Rep. Daniel Newhouse (R-WA-4); Rep. Mark	9
H.R.3396 To require the standardization of reciprocal fire suppression cost share agreements, and for other purposes.	This bill would require the standardization of reciprocal fire suppression cost share agreements, and for other purposes.	05/17/2023 Introduced by Rep. Josh Harder (D-CA-10) 05/23/2023 Subcommittee Hearings Held	**Rep. Doug LaMalfa (R-CA-1);** Rep. John Curtis (R-UT-3); Rep. Chris Stewart (R-UT-2)	3
H.R.3439 - To direct the Secretary of Agriculture to select and implement landscape-scale forest restoration projects, to assist communities in increasing their resilience to wildfire, and for other purposes	This bill would direct the Secretary of Agriculture to select and implement landscape-scale forest restoration projects, to assist communities in increasing their resilience to wildfire, and for other purposes.	05/17/2023 Introduced by Rep. Jimmy Panetta (D-CA-20) 05/22/2023 Referred to the Subcommittee on Federal Lands	**Rep. Adam Schiff (D-CA-28); Rep. Mike Thompson (D-CA-5); Rep. Salud Carbajal (D-CA-24); Rep. Jim Costa (D-CA-16); Rep. Mark DeSaulnier (D-CA-11); Rep. John Garamendi (D-CA-3); Rep. Barbara Lee (D-CA-13);** Rep. Andrea Salinas (D-OR-6);	8
H.R.3457 SUPERSAFE Act	This bill would direct the Administrator of the Environmental Protection Agency to establish a consortium relating to exposures to toxic substances and identifying chemicals that are safe to use.	05/18/2023 Introduced by Rep. Zoe Lofgren (D-CA-18) 05/18/2023 Referred to the House Committee on Energy and Commerce		0
H.R.3499 Direct Hire to Fight Fires Act	This bill would amend title 5, United States Code, to provide direct hire authority to appoint individuals to Federal wildland firefighting and firefighting support positions in the Forest Service or the Department of the Interior, and for other purposes.	05/18/2023 Introduced by Rep. Darrell Issa (R-CA-50) 05/23/2023 Subcommittee Hearings Held	**Rep. Doug LaMalfa (R-CA-1)**	1
S.1715 Wildfire Emergency Act of 2023	This bill would direct the Secretary of Agriculture to select and implement landscape-scale forest restoration projects, to assist communities in increasing their resilience to wildfire, and for other purposes.	05/18/2023 Introduced by Sen. Dianne Feinstein (D-CA) 05/18/2023 Read twice and referred to the Committee on Agriculture, Nutrition, and Forestry	**Sen. Alex Padilla (D-CA)**; Sen. Steve Daines (R-MT); Sen. Ron Wyden (D-OR)	

H.R.3675 Western Water Accelerated Revenue Repayment Act	amend the Water Infrastructure Improvements for the Nation Act to extend certain contract prepayment authority.	05/25/2023 Introduced by Rep. Lauren Boebert (R-CO-3) 06/14/2023 Subcommittee Hearings Held	**Rep. Tom McClintock (R-CA-4)**; Rep. Paul Gosar (R-AZ-4); Rep. Harriet Hageman (R-WY-1); Rep. Doug Lamborn (R-CO-5); Rep. Mike Lawler (R-NY-17); Rep. Troy Nehls (R-TX-22); Rep.	9
H.R. 3746 Fiscal Responsibility Act of 2023	This bill would provide for a responsible increase to the debt ceiling.	05/29/2023 Introduced by Rep. Patrick McHenry (R-NC-10) 06/03/2023 Became Public Law No: 118-5.		0
H.R.3871 Research for Healthy Soils Act	This bill would amend the Food, Agriculture, Conservation, and Trade Act of 1990 to include as a high-priority research and extension area research on microplastics in land-applied biosolids on farmland.	06/06/2023 Introduced by Rep. Marie Perez (D-WA-3) 06/06/2023 Referred to the House Committee on Agriculture	**Rep. Young Kim (R-CA-39)**	1
H.R.4018 Headwaters Protection Act	This bill would amend the Healthy Forests Restoration Act of 2003 to reauthorize and improve the Water Source Protection Program, and for other purposes.	06/12/2023 Introduced by Rep. Jim Costa (D-CA-21) 06/12/2023 Referred to the Committee on Agriculture, and in addition to the Committee on Natural Resources	**Rep. David Valadao (R-CA-21)**; Rep. Earl Blumenauer (D-OR-3); Rep. Brittany Pettersen (D-CO-7); Rep. Kim Schrier (D-WA-8); Rep. Melanie Ann Stansbury (D-NM-1)	5
H.R.4052 National Infrastructure Bank Act	facilitate efficient investments and financing of infrastructure projects and new job creation through the establishment of a National Infrastructure Bank, and for other purposes.	06/13/2023 Introduced by Rep. Danny Davis (D-IL-7) 06/13/2023 Referred to the Subcommittee on Highways and Transit	**Rep. Barbara Lee (D-CA-13); Rep. Eric Swalwell (D-CA-15)**	2
4	This bill would direct the Secretary of Agriculture and the Secretary of the Interior to establish a wildfire technology testbed pilot program, and for other purposes.	06/21/2023 Introduced by Rep. Young Kim (R-CA-40) 6/21/2023 Referred to the Committee on Natural Resources, and in addition to the Committee on Agriculture	**Rep. John Duarte (R-CA-13)**; Rep. Lori Chavez-DeRemer (R-OR-5); Rep. Jason Crow (D-CO-6); Rep. Doug Lamborn (R-CO-5); Rep. Mike Lawler (R-NY-17); Rep. James Moylan (R-GU-1)	6
H.R.4247 To direct the Secretary of the Army to establish a task force on the California snowpack and flood mitigation, and for other purposes.	This bill would direct the Secretary of the Army to establish a task force on the California snowpack and flood mitigation, and for other purposes.	06/21/2023 Introduced by Rep. Josh Harder (D-CA-9) 06/22/2023 Referred to the Subcommittee on Water Resources and Environment.	**Rep. Barbara Lee (D-CA-13); Rep. Zoe Lofgren (D-CA-19)**	2
S.2102 A bill to provide for drought preparedness and improved water supply reliability.	This bill would provide for drought preparedness and improved water supply reliability.	06/21/2023 Introduced by Sen. Ron Wyden (D-OR) 07/19/2023 Committee on Energy and Natural Resources Subcommittee on Water and Power. Hearings held	Sen. Jeff Merkley (D-OR)	1
S.2127 Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2024	This bill provides FY2024 appropriations for military construction, the Department of Veterans Affairs (VA), and related agencies. *This is the Senate counterpart to H.R. 4366.*	06/22/2023 Introduced by Sen. Patty Murray (D-WA) 06/22/2023 Placed on Senate Legislative Calendar under General Orders. Calendar No. 110		0
S.2130 A bill to require community engagement and reporting relating to activities of the Department of Defense with respect to perfluoroalkyl substances and polyfluoroalkyl substances, and for other purposes.	This bill would require community engagement and reporting relating to activities of the Department of Defense with respect to perfluoroalkyl substances and polyfluoroalkyl substances, and for other purposes.	06/22/2023 Introduced by Sen. Jeanne Shaheen (D-NH) 06/22/2023 Read twice and referred to the Committee on Armed Services		0

S.2161 A bill to provide financial assistance for projects to address certain subsidence impacts in the State of California, and for other purposes.	This bill would provide financial assistance for projects to address certain subsidence impacts in the State of California, and for other purposes. *This bill is the Senate companion to H.R. 2419.*	06/22/2023 Introduced by Sen. Dianne Feinstein (D-CA) 07/19/2023 Committee on Energy and Natural Resources Subcommittee on Water and Power. Hearings held		0
S.2162 A bill to support water infrastructure in Reclamation States, and for other purposes.	This bill would support water infrastructure in Reclamation States, and for other purposes.	06/22/2023 Introduced by Sen. Dianne Feinstein (D-CA) 07/19/2023 Committee on Energy and Natural Resources Subcommittee on Water and Power. Hearings held	Sen. Mark Kelly (D-AZ); Sen. Kyrsten Sinema (I-AZ)	2
S.2203 A bill to require the conduct of winter season reconnaissance of atmospheric rivers on the West Coast of the United States, and for other purposes.	This bill would require the conduct of winter season reconnaissance of atmospheric rivers on the West Coast of the United States, and for other purposes.	06/22/2023 Introduced by Sen. Alex Padilla (D-CA) 06/22/2023 Read twice and referred to the Committee on Armed Services		0
H.R.4366 Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2024	This bill provides FY2024 appropriations for military construction, the Department of Veterans Affairs (VA), and related agencies. *This is the House counterpart to S.2127.*	06/27/2023 Introduced by Rep. John Carter (R-TX-31) 06/27/2023 Placed on the Union Calendar, Calendar No. 94		0
H.R.4385 To extend authorization of the Reclamation States Emergency Drought Relief Act of 1991	This bill would extend authorization of the Reclamation States Emergency Drought Relief Act of 1991.	06/27/2023 Introduced by Rep. Joe Neguse (D-CO-2) 06/27/2023 Referred to the House Committee on Natural Resources	Rep. Juan Ciscomani (R-AZ-6)	1
H.R.4584 To improve the Federal effort to reduce wildland fire risks, and for other purposes.	This bill would improve the Federal effort to reduce wildland fire risks, and for other purposes.	07/12/2023 Introduced by Rep. Zoe Lofgren (D-CA-18) 07/13/2023 Referred to the Subcommittee on Economic Development, Public Buildings, and Emergency Management	Rep. Suzanne Bonamici (D-OR-1)	1
S.2272 - Wildland Firefighter Paycheck Protection Act	This bill would amend title 5, United States Code, to provide for special base rates of pay for wildland firefighters, and for other purposes.	07/12/2023 Introduced by Sen. Kyrsten Sinema (I-AZ) 07/19/2023 Committee on Homeland Security and Governmental Affairs	**Sen. Alex Padilla (D-CA)**; Sen. John Barrasso (R-WY); Sen. Steve Daines (R-MT); Sen. Joe Manchin (D-WV); Sen. Jon Tester (D-MT)	5
H.R.4717 To amend the Healthy Forests Restoration Act of 2003 with respect to third-party contracts for wildfire hazard fuel removal, to amend the National Forest Management Act with respect to the threshold for advertised timber sales, and for other purposes.	This bill would amend the Healthy Forests Restoration Act of 2003 with respect to third-party contracts for wildfire hazard fuel removal, to amend the National Forest Management Act with respect to the threshold for advertised timber sales, and for other purposes.	07/18/2023 Introduced by Rep. Doug Lamborn (R-CO-5) 07/18/2023 Referred to the Committee on Agriculture, and in addition to the Committee on Natural Resources	**Rep. Jim Costa (D-CA-16); Rep. Doug LaMalfa (R-CA-1)**; Rep. Lauren Boebert (R-CO-3)	3
H.R.4866 Fire Weather Development Act	This bill would direct the Administrator of the National Oceanic and Atmospheric Administration to establish a program to improve fire weather and fire environment forecasting, detection, and local collaboration, and for other purposes.	07/25/2023 Introduced by Rep. Mike Garcia (R-CA-27) 07/27/2023 Ordered to be Reported (Amended) by the Yeas and Nays: 33 - 2	**Rep. Young Kim (R-CA-39)**; Rep. Yadira Caraveo (D-CO-8)	2
H.R 4890 Urban Waters Federal Partnership Act	This bill would require the Administrator of the Environmental Protection Agency, the Secretary of the Interior, and the Secretary of Agriculture to maintain the Urban Waters Federal Partnership Program, and for other purposes.	07/25/2023 Introduced by Rep. Greg Stanton (D-AZ-4) 07/26/2023 Referred to the Subcommittee on Water Resources and Environment	Rep. Brian Fitzpatrick (R-PA-1)	1

H.R.4908 Expedited Federal Permitting for California Act	This bill would amend title 23, United States Code, to make eligible airport-related projects and port development projects eligible for approval under State environmental laws and regulations instead of the National Environmental Policy Act of 1969, and for other purposes.	07/26/2023 Introduced by Rep. John Garamendi (D-CA-8) 07/27/2023 Referred to the Subcommittee on Aviation	**Rep. Eric Swalwell (D-CA-15)**	1
H.R.4920 To provide for cost-share waivers for projects carried out in response to wildland fires caused by certain Government actions, and for other purposes.	This bill would provide for cost-share waivers for projects carried out in response to wildland fires caused by certain Government actions, and for other purposes.	07/26/2023 Introduced by Rep. Teresa Leger Fernandez (D-NM-3) 07/26/2023 Referred to the Committee on Agriculture, and in addition to the Committee on Natural Resources		0
H.R.4956 Farmer-Informed WOTUS Act of 2023	This bill would establish an advisory committee to inform Congress of the impact of Waters of the United States regulations on United States agriculture, and for other purposes.	07/27/2023 Introduced by Rep. Rudy Yakym (R-IN-2) 07/28/2023 Referred to the Subcommittee on Water Resources and Environment	Rep. Tracey Mann (R-KS-1)	1
S.2587 Department of Defense Appropriations Act, 2024	This bill provides FY2024 appropriations to the Department of Defense (DOD) for military activities.	07/27/2023 Introduced by Sen. John Tester (D-MT) 07/27/2023 Placed on Senate Legislative Calendar under General Orders. Calendar No. 181		0
S.2605 Department of the Interior, Environment, and Related Agencies Appropriations Act, 2024	Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2024, and for other purposes.	07/27/2023 Introduced by Sen. Jeff Merkley (D-OR) 07/27/2023 Placed on Senate Legislative Calendar under General Orders. Calendar No. 186		0

Syrus Devers Advocacy

To:	Las Virgenes - Triunfo JPA
From:	Syrus Devers
Date:	August 28th, 2023
Re:	State Legislative Report

Legislative Report

Just like last month's report, this report is brief because it only covers the two weeks since the Legislature returned from the Summer Recess on August 14th.

The main events this week are the "suspense files" in each house. All fiscal bills, which are about 80% of all bills introduced, are designated as fiscal bills because they might put cost pressure on the State Budget. All fiscal bills go to the Appropriations Committees and, of those bills, the majority go to the suspense file. The criteria for which bills go on suspense changes every year based on budget conditions, but there are also political factors that come into play. Deciding which bills "come off suspense" and make it to the Floor for a vote is heavily dependent on leadership. The Senate will hear the suspense file on Friday, Sept. 1st, and rumor has it that the Assembly will hear theirs the day before.

The major bill the water community is watching on suspense is AB 1594 (Garcia), which would give water and electric utilities more assurance that they will not be required to purchase zero-emission vehicles (ZEVs) to replace heavy and medium duty trucks needed for emergency and disaster response. It is somewhat surprising the bill has made it this far without more votes against it. Legislative staff have attempted to disparage the bill in comments and committee analyses, but so far the members have not not been moved and have passed it along.

Staff may try to have the last word by working behind the scenes to keep the bill "on suspense", which halts a bill's progress until next year. If AB 1594 does come off suspense, there are no more significant obstacles for it to overcome. The California Air Resources Control Board (CARB) has agreed to not oppose the bill in the Governor's office if an amendment is taken to allow them to consult on when a vehicle has reached the end of its useful life. With CARB on the sidelines and no "NO" votes in the Legislature, the bill is virtually certain to become law.

The other big news is the decision to push the bond bills (AB 1567 (Garcia) and SB 867 (Alen)) to the November ballot next year instead of the March primary ballot. In order to make the March ballot, the bill language would have needed to be passed in this session concluding on September 15th. A lot of work was done to lobby for the priorities of the water community in anticipation of the bill(s) moving this year, but the work was not in vain. The negotiations will pick up where they left off in the fall.

Syrus Devers Advocacy

Administration Report

The proposed regulations for Making Conservation a Way of Life, which began with the passage of AB 1668 (Friedman) and SB 606 (Hertzberg) in 2018, were released on August 18th. The public comment period runs until October 17th.

Las Virgenes-Triunfo JPA

Bill Matrix – August 2023

A. Priority Support/Oppose

AB 234 **(Bauer-Kahan D) Microparticles.**
Current Text: Amended: 3/30/2023 html pdf
Status: 4/28/2023-Failed Deadline pursuant to Rule 61(a)(2). (Last location was NAT. RES. on 3/23/2023)(May be acted upon Jan 2024)
Location: 4/28/2023-A. 2 YEAR
Summary: Would enact the Synthetic Polymer Microparticles in Cosmetic and Cleaning Products Prevention Act. The bill would prohibit a synthetic polymer microparticle from being placed on the market in this state as a substance on its own or, where the synthetic polymer microparticles are present to confer a sought-after characteristic, in mixtures in a concentration equal to or greater than 0.01% by weight. The restriction would apply on and after specified dates depending on the type of product, as described, except as otherwise provided. The bill would specify the screening tests and pass criteria to be used for purposes of determining compliance with this prohibition. The bill would make a person who violates this prohibition liable for a civil penalty not to exceed $5,000 per day for each violation, in addition to any other penalty established by law. The bill would authorize the civil penalty to be assessed and recovered in a civil action brought by a city attorney, a district attorney, a county counsel, or the Attorney General in any court of competent jurisdiction.

Position	Priority
Watch	A. Priority Support/Oppose

AB 249 **(Holden D) Water: schoolsites: lead testing: conservation.**
Current Text: Amended: 6/22/2023 html pdf
Status: 8/21/2023-In committee: Referred to APPR suspense file.
Location: 8/21/2023-S. APPR. SUSPENSE FILE
Summary: Would require a community water system that serves a schoolsite, as defined, to test for lead in the potable water system outlets of the schoolsite before January 1, 2027, except for potable water system outlets in buildings that were either constructed after January 1, 2010, or modernized after January 1, 2010, and all faucets and other end point devices used for providing potable water were replaced as part of the modernization. The bill would require the community water system to report its findings to the applicable schoolsite or local educational agency and to the state board. The bill would require the local educational agency or schoolsite, if the lead level exceeds a specified level at a schoolsite, to notify the parents and guardians of the pupils who attend the schoolsite, take immediate steps to make inoperable and shut down from use all potable water system outlets where the excess lead levels may exist, and work to ensure that a lead-free source of drinking water is provided for pupils, as specified. The bill would require a community water system to test a potable water system outlet that replaces an outlet that is found to have excess levels of lead. The bill would require a community water system to prepare a sampling plan for each schoolsite where lead sampling is required under these provisions, as specified. The bill would require the schoolsite, local education agency, and state board to make the results of schoolsite lead sampling publicly available by posting the results on its internet website. The bill would require a schoolsite and a local educational agency, if an internet website is not maintained, to provide the results upon request. By imposing additional duties on local agencies, this bill would impose a state-mandated local program.

Position	Priority
Watch	A. Priority

AB 460 **(Bauer-Kahan D) State Water Resources Control Board: water rights and usage: interim relief: procedures.**
Current Text: Amended: 5/18/2023 html pdf
Status: 7/14/2023-Failed Deadline pursuant to Rule 61(a)(10). (Last location was N.R. & W. on 6/7/2023)(May be acted upon Jan 2024)
Location: 7/14/2023-S. 2 YEAR
Summary: Current law authorizes the State Water Resources Control Board to investigate all streams, stream systems, lakes, or other bodies of water, take testimony relating to the rights to water or the use of water, and ascertain whether water filed upon or attempted to be appropriated is appropriated under the laws of the state. Current law requires the board to take appropriate actions to prevent waste or the unreasonable use of water. This bill would authorize the board, in conducting specified investigations or proceedings to inspect the property or facilities of a person or entity, as specified. The bill would authorize the board, if consent is denied for an inspection, to obtain an inspection warrant, as specified, or in the event of an emergency affecting public health and safety, to conduct an inspection without consent or a warrant.

Position	Priority
Opposition	A. Priority Support/Oppose

AB 682 **(Mathis R) State Water Resources Control Board: online search tool: funding applications.**
Current Text: Amended: 3/20/2023 html pdf
Status: 7/5/2023-Read second time. Ordered to third reading.
Location: 7/5/2023-S. THIRD READING
Summary: Current law establishes the State Water Resources Control Board (state board) to exercise the adjudicatory and regulatory functions of the state in the field of water resources. Current law establishes the Safe and Affordable Drinking Water Fund in the State Treasury to help water systems provide an adequate and affordable supply of safe drinking water in both the near and long terms. This bill would require, by January 1, 2025, the state board to update the state board's online search tool for funding applications to include a description of the additional information the state board needs from a water system to continue processing the water system's application and a description of the typical steps that must be completed before a funding agreement can be executed after receipt of a complete application, among other information, as specified.

Position	Priority
Support	A. Priority Support/Oppose

AB 754 **(Papan D) Water management planning: water shortages.**
Current Text: Amended: 8/14/2023 html pdf
Status: 8/21/2023-In committee: Referred to APPR suspense file.
Location: 8/21/2023-S. APPR. SUSPENSE FILE
Summary: Current law requires an urban water management plan to quantify past, current, and projected water use, identifying the uses among water use sectors, including, among others, commercial, agricultural, and industrial. Current law requires every urban water supplier to prepare and adopt a water shortage contingency plan as part of its urban water management plan. Current law requires the water shortage contingency plan to include the procedures used in conducting an annual water supply and demand assessment, including the key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year. Current law requires the key data inputs and assessment methodology to include specified information, including, among other things, a description and quantification of each source of water supply. This bill would require a water shortage contingency plan to include, if, based on a description and quantification of each source of water supply, a single reservoir constitutes at least 50% of the total water supply, an identification of the dam and description of existing reservoir management operations, as specified, and if the reservoir is owned and operated by the urban water supplier, a description of operational practices and approaches, as specified.

Position	Priority
Opposition	A. Priority Support/Oppose

AB 755 **(Papan D) Water: public entity: water usage demand analysis.**
Current Text: Amended: 8/14/2023 html pdf
Status: 8/22/2023-Read second time. Ordered to third reading.
Location: 8/22/2023-S. THIRD READING
Summary: Current law authorizes a public entity that supplies water at retail or wholesale within its service area to

adopt, in accordance with specified procedures, and enforce a water conservation program. This bill would require a public entity, as defined, to conduct a water usage demand analysis, as defined, prior to completing, or as part of, a cost-of-service analysis conducted to set fees and charges for water service that are consistent with applicable law. The bill would require a public entity to identify, within the water usage demand analysis, the costs of water service for the highest users, as defined, incurred by the public entity, and the average annual volume of water delivered to high water users.

Position	Priority
Opposition	A. Priority Support/Oppose

Notes 1: Major reasons for opposition removed in Sen policy committee

AB 838 **(Connolly D) California Water Affordability and Infrastructure Transparency Act of 2023.**
Current Text: Amended: 3/21/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 4/19/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-A. 2 YEAR
Summary: The California Safe Drinking Water Act requires the State Water Resources Control Board to administer provisions relating to the regulation of drinking water to protect public health. Current law declares it to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. The act prohibits a person from operating a public water system unless the person first submits an application to the state board and receives a permit to operate the system, as specified. The act requires a public water system to submit a technical report to the state board as a part of the permit application or when otherwise required by the state board, as specified, and to submit the report in the form and format and at intervals specified by the state board. This bill would require, beginning January 1, 2025, and thereafter at intervals determined by the state board, public water systems to provide specified information and data related to customer water bills and efforts to replace aging infrastructure to the state board.

Position	Priority
Watch	A. Priority Support/Oppose

AB 1211 **(Mathis R) Safe Drinking Water State Revolving Fund: internet website information: updates.**
Current Text: Introduced: 2/16/2023 html pdf
Status: 7/14/2023-Failed Deadline pursuant to Rule 61(a)(10). (Last location was E.Q. on 5/10/2023)(May be acted upon Jan 2024)
Location: 7/14/2023-S. 2 YEAR
Summary: The Safe Drinking Water State Revolving Fund Law of 1997, administered by the State Water Resources Control Board, establishes the Safe Drinking Water State Revolving Fund to provide grants or revolving fund loans for the design and construction of projects for public water systems that will enable those systems to meet safe drinking water standards. Current law requires the board, at least once every 2 years, to post information on its internet website regarding implementation of the Safe Drinking Water State Revolving Fund Law and expenditures from the Safe Drinking Water State Revolving Fund, as specified This bill would require the board to post the information at least annually.

Position	Priority
Support	A. Priority Support/Oppose

AB 1337 **(Wicks D) State Water Resources Control Board: water diversion curtailment.**
Current Text: Amended: 5/18/2023 html pdf
Status: 7/14/2023-Failed Deadline pursuant to Rule 61(a)(10). (Last location was N.R. & W. on 6/7/2023)(May be acted upon Jan 2024)
Location: 7/14/2023-S. 2 YEAR
Summary: Under existing law, the diversion or use of water other than as authorized by specified provisions of law is a trespass, subject to specified civil liability. This bill would expand the instances when the diversion or use of water is considered a trespass. This bill contains other related provisions and other existing laws.

Position	Priority
Opposition	A. Priority Support/Oppose

AB 1484 **(Zbur D) Temporary public employees.**

Current Text: Amended: 5/18/2023 html pdf
Status: 8/14/2023-In committee: Referred to APPR suspense file.
Location: 8/14/2023-S. APPR. SUSPENSE FILE
Summary: (1)Existing law, the Meyers-Milias-Brown Act (act), authorizes local public employees, as defined, to form, join, and participate in the activities of employee organizations of their own choosing for the purpose of representation on matters of labor relations. Existing law generally requires that the scope of representation under the act include all matters relating to employment conditions and employer-employee relations, while excepting the consideration of the merits, necessity, or organization of any service or activity provided by law or executive order. Existing law states that the Legislature finds and declares that the duties and responsibilities of local agency employer representatives under the act are substantially similar to the duties and responsibilities required under existing collective bargaining enforcement procedures and therefore the costs incurred by the local agency employer representatives in performing those duties and responsibilities under that act are not reimbursable as state-mandated costs. This bill would impose specified requirements with respect to the temporary employees, as defined, of a public employer who have been hired to perform the same or similar type of work that is performed by permanent employees represented by a recognized employee organization. In this regard the bill would require those temporary employees to be automatically included in the same bargaining unit as the permanent employees, as specified, upon the request of the recognized employee organization. The bill would also require a public employer to, upon hire, provide each temporary employee with their job description, wage rates, and eligibility for benefits, anticipated length of employment, and procedures to apply for open, permanent positions. By imposing new duties on local agencies that employ temporary employees, the bill would impose a state-mandated local program. The bill would require complaints alleging a violation of its provisions to be processed as unfair practice charges under the act. The bill would additionally include the same findings and declarations as set forth above. This bill contains other related provisions and other existing laws.

Position	Priority
Opposition	A. Priority Support/Oppose

AB 1567 **(Garcia D) Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, Clean Energy, and Workforce Development Bond Act of 2024.**
Current Text: Amended: 5/26/2023 html pdf
Status: 6/14/2023-Referred to Coms. on N.R. & W. and GOV. & F.
Location: 6/14/2023-S. N.R. & W.
Summary: Would enact the Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, Clean Energy, and Workforce Development Bond Act of 2024, which, if approved by the voters, would authorize the issuance of bonds in the amount of $15,995,000,000 pursuant to the State General Obligation Bond Law to finance projects for safe drinking water, wildfire prevention, drought preparation, flood protection, extreme heat mitigation, clean energy, and workforce development programs.

Position	Priority
Watch	A. Priority Support/Oppose

AB 1572 **(Friedman D) Potable water: nonfunctional turf.**
Current Text: Amended: 8/16/2023 html pdf
Status: 8/17/2023-In committee: Hearing postponed by committee.
Location: 7/3/2023-S. APPR.
Summary: Would make legislative findings and declarations concerning water use, including that the use of potable water to irrigate nonfunctional turf is wasteful and incompatible with state policy relating to climate change, water conservation, and reduced reliance on the Sacramento-San Joaquin Delta ecosystem. The bill would direct all appropriate state agencies to encourage and support the elimination of irrigation of nonfunctional turf with potable water.

Position	Priority
Watch	A. Priority Support/Oppose

AB 1594 **(Garcia D) Medium- and heavy-duty zero-emission vehicles: public agency utilities.**
Current Text: Amended: 7/13/2023 html pdf
Status: 8/14/2023-In committee: Referred to APPR suspense file.
Location: 8/14/2023-S. APPR. SUSPENSE FILE
Summary: Current law establishes the Air Quality Improvement Program that is administered by the State Air Resources Board for purposes of funding projects related to, among other things, the reduction of criteria air pollutants and improvement of air quality, and establishes the Medium- and Heavy-Duty Zero-Emission Vehicle Fleet Purchasing Assistance Program within the Air Quality Improvement Program to make financing tools and nonfinancial supports available to operators of medium- and heavy-duty vehicle fleets to enable those operators to transition their fleets to

zero-emission vehicles. This bill would require any state regulation that seeks to require, or otherwise compel, the procurement of medium- and heavy-duty zero-emission vehicles to authorize public agency utilities to purchase replacements for traditional utility-specialized vehicles that are at the end of life when needed to maintain reliable service and respond to major foreseeable events, including severe weather, wildfires, natural disasters, and physical attacks, as specified. The bill would define a public agency utility to include a local publicly owned electric utility, a community water system, and a wastewater treatment provider, as specified.

Position	Priority
Support	A. Priority Support/Oppose

Notes 1: Clean fleets bill - CMUA sponsored - possible support

SB 23 **(Caballero D) Water supply and flood risk reduction projects: expedited permitting.**
Current Text: Amended: 5/1/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/15/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-S. 2 YEAR
Summary: Current law prohibits an entity from substantially diverting or obstructing the natural flow of, or substantially changing or using any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, except under specified conditions, including requiring the entity to send written notification to the Department of Fish and Wildlife regarding the activity in the manner prescribed by the department. This bill would require a project proponent, if already required to submit a notification to the department, to submit to the department the certified or adopted environmental review document, as applicable, for the activity in the notification. The bill would require the department, under prescribed circumstances, to take certain actions within specified timelines, or within a mutually agreed-to extension of time.

Position	Priority
Support	A. Priority Support/Oppose

SB 48 **(Becker D) Building Energy Savings Act.**
Current Text: Amended: 6/30/2023 html pdf
Status: 8/23/2023-August 23 set for first hearing. Placed on suspense file.
Location: 8/23/2023-A. APPR. SUSPENSE FILE
Summary: Current law requires each utility to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete calendar months, and to deliver or otherwise provide that aggregated energy usage data for each covered building, as defined, to the owner, as specified. Current law requires the State Energy Resources Conservation and Development Commission (Energy Commission) to adopt regulations providing for the delivery to the Energy Commission and public disclosure of benchmarking of energy use for covered buildings, and specifies that this requirement does not require the owner of a building with 16 or fewer residential utility accounts to collect or deliver energy usage information to the Energy Commission. This bill would additionally specify that the requirement does not require the owner of a building with less than 50,000 square feet of gross floor space to collect or deliver energy usage information to the Energy Commission.

Position	Priority
Watch	A. Priority Support/Oppose

SB 366 **(Caballero D) The California Water Plan: long-term supply targets.**
Current Text: Amended: 6/29/2023 html pdf
Status: 7/14/2023-Failed Deadline pursuant to Rule 61(a)(10). (Last location was W.,P. & W. on 6/8/2023)(May be acted upon Jan 2024)
Location: 7/14/2023-A. 2 YEAR
Summary: Current law requires the Department of Water Resources to update every 5 years the plan for the orderly and coordinated control, protection, conservation, development, and use of the water resources of the state, which is known as “The California Water Plan.” Current law requires the department to include a discussion of various strategies in the plan update, including, but not limited to, strategies relating to the development of new water storage facilities, water conservation, water recycling, desalination, conjunctive use, water transfers, and alternative pricing policies that may be pursued in order to meet the future needs of the state. Current law requires the department to establish an advisory committee to assist the department in updating the plan. This bill would revise and recast certain provisions regarding The California Water Plan to, among other things, require the department to instead establish a stakeholder advisory committee and to expand the membership of the committee to include tribes, labor, and environmental justice interests. The bill would require the department to coordinate with the California Water Commission, the State Water Resources

Control Board, other state and federal agencies as appropriate, and the stakeholder advisory committee to develop a comprehensive plan for addressing the state's water needs and meeting specified long-term water supply targets established by the bill for purposes of The California Water Plan. The bill would require the plan to provide recommendations and strategies to ensure enough water supply for all beneficial uses.

Position	Priority
Support	A. Priority Support/Oppose

SB 389 **(Allen D) State Water Resources Control Board: investigation of water right.**
Current Text: Amended: 7/6/2023 html pdf
Status: 8/17/2023-Read second time. Ordered to third reading.
Location: 8/17/2023-A. THIRD READING
Summary: Current law authorizes the State Water Resources Control Board to investigate bodies of water, to take testimony in regard to the rights to water or the use of water, and to ascertain whether or not water is appropriated lawfully, as provided. Under current law, the diversion or use of water other than as authorized by specified provisions of law is a trespass, subject to specified civil liability. This bill would instead authorize the board to investigate and ascertain whether or not a water right is valid. The bill would authorize the board to issue an information order in furtherance of an investigation, as executed by the executive director of the board, to a water right holder or claimant, diverter, or user to provide the information related to a diversion and use of water, as specified. The bill would authorize a diversion or use of water ascertained to be unauthorized pursuant to this provision to be enforced as a trespass.

Position	Priority
Watch	A. Priority Support/Oppose

SB 676 **(Allen D) Local ordinances and regulations: drought-tolerant landscaping.**
Current Text: Amended: 4/18/2023 html pdf
Status: 7/13/2023-Read second time. Ordered to third reading.
Location: 7/13/2023-A. THIRD READING
Summary: Current law prohibits a city, including a charter city, county, and city and county, from enacting or enforcing any ordinance or regulation that prohibits the installation of drought-tolerant landscaping, synthetic grass, or artificial turf on residential property, as specified. This bill would instead prohibit a city, including a charter city, county, or city and county from enacting or enforcing any ordinance or regulation that prohibits the installation of drought-tolerant landscaping using living plant material on residential property. The bill would specify that drought-tolerant landscaping does not include the installation of synthetic grass or artificial turf. By establishing new requirements for local agencies, this bill would impose a state-mandated program.

Position	Priority
Support	A. Priority Support/Oppose

SB 687 **(Eggman D) Water Quality Control Plan: Delta Conveyance Project.**
Current Text: Amended: 5/2/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/8/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-S. 2 YEAR
Summary: Would require the State Water Resources Control Board to adopt a final update of the 1995 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, as provided, before the board may consider a change in point diversion or any other water rights permit or order for the Delta Conveyance Project. The bill would also, if, after completing the update of the plan and in compliance with existing law, the board approves a change in point of diversion or any other water rights permit or order associated with the Delta Conveyance Project, prohibit the operation of the Delta Conveyance Project unless and until the updated plan is fully implemented. The bill would specify that these provisions do not constitute an authorization for or approval of funding for the Delta Conveyance Project or any other project that includes isolated Delta conveyance facilities, and do not reduce any statutory or other regulatory conditions or permit requirements for Delta conveyance projects.

Position	Priority
Watch	A. Priority Support/Oppose

SB 867 **(Allen D) Drought, Flood, and Water Resilience, Wildfire and Forest Resilience, Coastal Resilience, Extreme Heat Mitigation, Biodiversity and Nature-Based Climate Solutions, Climate Smart Agriculture, Park Creation**

and Outdoor Access, and Clean Energy Bond Act of 2024.
Current Text: Amended: 6/22/2023 html pdf
Status: 7/6/2023-July 10 hearing postponed by committee.
Location: 6/20/2023-A. NAT. RES.
Summary: Would enact the Drought, Flood, and Water Resilience, Wildfire and Forest Resilience, Coastal Resilience, Extreme Heat Mitigation, Biodiversity and Nature-Based Climate Solutions, Climate Smart Agriculture, Park Creation and Outdoor Access, and Clean Energy Bond Act of 2024, which, if approved by the voters, would authorize the issuance of bonds in the amount of $15,500,000,000 pursuant to the State General Obligation Bond Law to finance projects for drought, flood, and water resilience, wildfire and forest resilience, coastal resilience, extreme heat mitigation, biodiversity and nature-based climate solutions, climate smart agriculture, park creation and outdoor access, and clean energy programs.

Position	Priority
Support	A. Priority Support/Oppose

B. Watch

AB 30 **(Ward D) Atmospheric rivers: research: reservoir operations.**
Current Text: Enrollment: 8/22/2023 html pdf
Status: 8/22/2023-Enrolled and presented to the Governor at 3:45 p.m.
Location: 8/22/2023-A. ENROLLED
Summary: Current law establishes the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program in the Department of Water Resources. Current law requires the department, upon an appropriation for purposes of the program, to research climate forecasting and the causes and impacts that climate change has on atmospheric rivers, to operate reservoirs in a manner that improves flood protection, and to reoperate flood control and water storage facilities to capture water generated by atmospheric rivers. This bill would rename that program the Atmospheric Rivers Research and Forecast Improvement Program: Enabling Climate Adaptation Through Forecast-Informed Reservoir Operations and Hazard Resiliency (AR/FIRO) Program. The bill would require the department to research, develop, and implement new observations, prediction models, novel forecasting methods, and tailored decision support systems to improve predictions of atmospheric rivers and their impacts on water supply, flooding, post-wildfire debris flows, and environmental conditions.

Position	Priority
Watch	B. Watch

AB 62 **(Mathis R) Statewide water storage: expansion.**
Current Text: Amended: 4/20/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/10/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-A. 2 YEAR
Summary: Current law establishes within the Natural Resources Agency the State Water Resources Control Board and the California regional water quality control boards. Current law requires the work of the state board to be divided into at least 2 divisions, known as the Division of Water Rights and the Division of Water Quality. This bill would establish a statewide goal to increase above- and below-ground water storage capacity by a total of 3,700,000 acre-feet by the year 2030 and a total of 4,000,000 acre-feet by the year 2040. The bill would require the Department of Water Resources, in consultation with the state board, to take reasonable actions to promote or assist efforts to achieve the statewide goal, as provided. The bill would require the department, beginning July 1, 2027, and on or before July 1 every 2 years thereafter until January 1, 2043, in consultation with the state board, to prepare and submit a report to the Legislature on the progress made to achieve the statewide goal.

Position	Priority
Watch	B. Watch

AB 66 **(Mathis R) Natural Resources Agency: water storage projects: permit approval.**

Current Text: Amended: 3/29/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 4/19/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-A. 2 YEAR
Summary: Current law establishes the Natural Resources Agency, composed of departments, boards, conservancies, and commissions responsible for the restoration, protection, and management of the state's natural and cultural resources. Current law establishes in the agency the Department of Water Resources, which manages and undertakes planning with regard to water resources in the state. This bill would require the agency, and each department, board, conservancy, and commission within the agency, to take all reasonable steps to approve the necessary permits for specified projects that meet certain employment conditions within 180 days from receiving a complete permit application.

Position	Priority
	B. Watch

AB 277 **(Rodriguez D) Extreme Weather Forecast and Threat Intelligence Integration Center.**
Current Text: Amended: 7/3/2023 html pdf
Status: 8/21/2023-In committee: Referred to APPR suspense file.
Location: 8/21/2023-S. APPR. SUSPENSE FILE
Summary: Current law establishes the Atmospheric Rivers: Research, Mitigation, and Climate Forecasting Program within the department to, upon appropriation of special fund moneys, research climate forecasting and the causes and impacts that climate change has on atmospheric rivers, to operate reservoirs in a manner that improves flood protection in the state, and to reoperate flood control and water storage facilities to capture water generated by atmospheric rivers. This bill would establish the State-Federal Flood Operations Center within the Department of Water Resources and would authorize the department to administer the center in the department's divisions, offices, or programs. The bill would provide that the purpose of the center is to function as the focal point for gathering, analyzing, and disseminating flood and water-related information to stakeholders and would authorize the center to take specified actions for that purpose, including to function during emergency situations to enable the department to centrally coordinate statewide emergency responses.

Position	Priority
Watch	B. Watch

AB 305 **(Villapudua D) California Flood Protection Bond Act of 2024.**
Current Text: Amended: 4/25/2023 html pdf
Status: 6/14/2023-Referred to Coms. on N.R. & W. and GOV. & F.
Location: 6/14/2023-S. N.R. & W.
Summary: Would enact the California Flood Protection Bond Act of 2024 which, if approved by the voters, would authorize the issuance of bonds in the amount of $4,500,000,000 pursuant to the State General Obligation Bond Law for flood protection projects, as specified. The bill would provide for the submission of these provisions to the voters at the November 5, 2024, statewide general election.

Position	Priority
Watch	B. Watch

AB 338 **(Aguiar-Curry D) Public works: definition.**
Current Text: Introduced: 1/30/2023 html pdf
Status: 8/14/2023-In committee: Referred to APPR suspense file.
Location: 8/14/2023-S. APPR. SUSPENSE FILE
Summary: Current law requires that, except as specified, not less than the general prevailing rate of per diem wages, determined by the Director of Industrial Relations, be paid to workers employed on public works projects. Existing law defines the term "public works" for purposes of requirements regarding the payment of prevailing wages to include construction, alteration, demolition, installation, or repair work done under contract and paid for using public funds, except as specified. Current law makes a willful violation of laws relating to the payment of prevailing wages on public works a misdemeanor. This bill would, commencing January 1, 2025, expand the definition of "public works" to include fuel reduction work done under contract and paid for in whole or in part out of public funds performed as part of a fire mitigation project, as specified. The bill would limit those provisions to work that falls within an apprenticable occupation in the building and construction trades for which an apprenticeship program has been approved and to contracts in excess of $100,000. The bill would delay the application of those provisions until January 1, 2026, for nonprofits.

Position	Priority
Watch	B. Watch

AB 340 **(Fong, Vince R) California Environmental Quality Act: grounds for noncompliance.**
Current Text: Introduced: 1/30/2023 html pdf
Status: 4/28/2023-Failed Deadline pursuant to Rule 61(a)(2). (Last location was NAT. RES. on 2/9/2023)(May be acted upon Jan 2024)
Location: 4/28/2023-A. 2 YEAR
Summary: The California Environmental Quality Act (CEQA) prohibits an action or proceeding from being brought in a court to challenge the approval of a project by a public agency unless the alleged grounds for noncompliance are presented to the public agency orally or in writing by a person during the public comment period provided by CEQA or before the close of the public hearing on the project before the issuance of the notice of determination. This bill would require the alleged grounds for noncompliance with CEQA presented to the public agency in writing be presented at least 10 days before the public hearing on the project before the issuance of the notice of determination. The bill would prohibit the inclusion of written comments presented to the public agency after that time period in the record of proceedings and would prohibit those documents from serving as basis on which an action or proceeding may be brought.

Position	Priority
Watch	B. Watch

AB 557 **(Hart D) Open meetings: local agencies: teleconferences.**
Current Text: Amended: 6/19/2023 html pdf
Status: 6/29/2023-Read second time. Ordered to third reading.
Location: 6/29/2023-S. THIRD READING
Summary: The Ralph M. Brown Act requires, with specified exceptions, that all meetings of a legislative body of a local agency, as those terms are defined, be open and public and that all persons be permitted to attend and participate. The act contains specified provisions regarding providing for the ability of the public to observe and provide comment. The act allows for meetings to occur via teleconferencing subject to certain requirements, particularly that the legislative body notice each teleconference location of each member that will be participating in the public meeting, that each teleconference location be accessible to the public, that members of the public be allowed to address the legislative body at each teleconference location, that the legislative body post an agenda at each teleconference location, and that at least a quorum of the legislative body participate from locations within the boundaries of the local agency's jurisdiction. The act provides an exemption to the jurisdictional requirement for health authorities, as defined. This bill would revise the authority of a legislative body to hold a teleconference meeting under those abbreviated teleconferencing procedures when a declared state of emergency is in effect. Specifically, the bill would extend indefinitely that authority in the circumstances under which the legislative body either (1) meets for the purpose of determining whether, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees, or (2) has previously made that determination.

Position	Priority
Watch	B. Watch

AB 676 **(Bennett D) Water: general state policy.**
Current Text: Amended: 8/21/2023 html pdf
Status: 8/22/2023-Read second time. Ordered to third reading.
Location: 8/22/2023-S. THIRD READING
Summary: Would specify that the use of water for domestic purposes includes water use for human consumption, cooking, sanitary purposes, care of household livestock, animals, and gardens, fire suppression and other safety purposes, and a purpose determined to be a domestic purpose as established by the common law.

Position	Priority
Watch	B. Watch

AB 735 **(Berman D) Workforce development: utility careers.**
Current Text: Introduced: 2/13/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/10/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-A. 2 YEAR
Summary: Would establish the High Road Utility Careers (HRUC) program, to be administered by the California Workforce Development Board, to connect existing resources with individuals interested in careers in the utility sector and ensure a continued reliable workforce for California utilities. The bill would require the board to administer the HRUC program through partnerships with statewide water, wastewater, and energy utility associations and to coordinate the program with existing and future programs and initiatives administered by the board, including high road training partnerships, in order to align interested individuals with available resources. The bill would require the HRUC program, upon appropriation by the Legislature, to dedicate funding and resources toward accomplishing specified goals, including connecting workers to high-quality jobs or entry-level work with defined routes to advancement and increasing

skills and opportunities while expanding pipelines for low-income populations.

Position	Priority
Watch	B. Watch

AB 759 **(Grayson D) Sanitary districts.**
Current Text: Chaptered: 6/29/2023 html pdf
Status: 6/29/2023-Approved by the Governor. Chaptered by Secretary of State - Chapter 19, Statutes of 2023.
Location: 6/29/2023-A. CHAPTERED
Summary: Current law authorizes the formation of a sanitary district, pursuant to specified requirements. Current law authorizes a sanitary district to acquire, plan, construct, reconstruct, alter, enlarge, lay, renew, replace, maintain, and operate garbage dumpsites and garbage collection and disposal systems, sewers, drains, septic tanks, and sewerage collection, outfall, treatment works and other sanitary disposal systems, and storm water drains and storm water collection, outfall and disposal systems, and water recycling and distribution systems, as the deemed necessary and proper by the governing board of the district. Current law generally authorizes the district to expend money only upon written order of the board. Current law also authorizes a district board, as an alternative to the functions of the treasurer, to elect to disburse district funds upon resolution of the board and the filing of a certified copy with the treasurer. Under current law, the treasurer is then required to deliver all district funds to the district, which can only be withdrawn by written order of the district boards, signed by the president and secretary. Current law requires the district board to appoint a treasurer responsible for the deposit and withdrawal of district funds. This bill would instead authorize funds to be withdrawn by a district treasurer or expended by a treasurer upon approval by the board, signed by the president and secretary.

Position	Priority
Watch	B. Watch

AB 1072 **(Wicks D) Water conservation and efficiency: low-income residential customers.**
Current Text: Amended: 4/25/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/17/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-A. 2 YEAR
Summary: Would declare the policy of the state that all residents have access to water conservation and efficiency programs. The bill would also set forth related findings including that reaching the state's environmental justice goals and commitments requires designing climate adaptation programs so that all households may participate.

Position	Priority
Watch	B. Watch

AB 1205 **(Bauer-Kahan D) Water rights: sale, transfer, or lease: agricultural lands.**
Current Text: Amended: 7/13/2023 html pdf
Status: 8/21/2023-In committee: Referred to APPR suspense file.
Location: 8/21/2023-S. APPR. SUSPENSE FILE
Summary: Current law declares that, because of the conditions prevailing in this state, the general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable, that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of the water is to be exercised with a view to the reasonable and beneficial use of the water in the interest of the people and for the public welfare. This bill would require the State Water Resources Control Board to, on or before January 1, 2027, conduct a study and report to the Legislature and appropriate policy committees on the existence of speculation or profiteering by an investment fund in the sale, transfer, or lease of an interest in any surface water right or groundwater right previously put to beneficial use on agricultural lands, as specified. The bill would repeal this provision on January 1, 2031.

Position	Priority
Watch	B. Watch

AB 1563 **(Bennett D) Groundwater sustainability agency: groundwater extraction permit: verification.**
Current Text: Amended: 6/28/2023 html pdf
Status: 7/14/2023-Failed Deadline pursuant to Rule 61(a)(10). (Last location was GOV. & F. on 6/22/2023)(May be acted upon Jan 2024)
Location: 7/14/2023-S. 2 YEAR
Summary: Current law authorizes any local agency or combination of local agencies overlying a groundwater basin to decide to become a groundwater sustainability agency for that basin and imposes specified duties upon that agency or combination of agencies, as provided. Current law authorizes a groundwater sustainability agency to request of the county, and requires a county to consider, that the county forward permit requests for the construction of new

groundwater wells, the enlarging of existing groundwater wells, and the reactivation of abandoned groundwater wells to the agency before permit approval. This bill would instead require a county to forward permit requests for the construction of new groundwater wells, the enlarging of existing groundwater wells, and the reactivation of abandoned groundwater wells to the groundwater sustainability agency before permit approval.

Position	Priority
Watch	B. Watch

AB 1573 **(Friedman D) Water conservation: landscape design: model ordinance.**
Current Text: Amended: 8/16/2023 html pdf
Status: 8/17/2023-In committee: Hearing postponed by committee.
Location: 7/3/2023-S. APPR.
Summary: The Water Conservation in Landscaping Act provides for a Model Water Efficient Landscape Ordinance that is adopted and updated at least every 3 years by the Department of Water Resources, unless the department makes a specified finding. Current law requires a local agency to adopt the model ordinance or to adopt a water efficient landscape ordinance that is at least as effective in conserving water as the updated model ordinance, except as specified. Current law specifies the provisions of the updated model ordinance, as provided. Current law includes a related statement of legislative findings and declarations. This bill would require the updated model ordinance to include provisions that require that plants included in a landscape design plan be selected based on their adaptability to climatic, geological, and topographical conditions of the project site, as specified. The bill would also exempt landscaping that is part of a culturally specific project, as defined, ecological restoration projects that do not require a permanent irrigation system, mined-land reclamation projects that do not require a permanent irrigation system, and existing plant collections, as part of botanical gardens and arboretums open to the public, from the model ordinance. The bill would require the updated model ordinance to include provisions that, among other changes, prohibit the use of traditional overhead sprinklers on all new and rehabilitated landscapes and require that new and rehabilitated landscapes use only water efficient irrigation devices, require that all new or renovated nonresidential areas install in the project footprint not less than 25% California native plants, as provided, and prohibit the inclusion of nonfunctional turf in nonresidential landscape projects after January 1, 2026.

Position	Priority
Watch	B. Watch

AB 1637 **(Irwin D) Local government: internet websites and email addresses.**
Current Text: Amended: 6/29/2023 html pdf
Status: 7/10/2023-In committee: Referred to APPR. suspense file.
Location: 7/10/2023-S. APPR. SUSPENSE FILE
Summary: Would, no later than January 1, 2029, require a local agency, as defined, that maintains an internet website for use by the public to ensure that the internet website utilizes a ".gov" top-level domain or a ".ca.gov" second-level domain and would require a local agency that maintains an internet website that is noncompliant with that requirement to redirect that internet website to a domain name that does utilize a ".gov" or ".ca.gov" domain. This bill, no later than January 1, 2029, would also require a local agency that maintains public email addresses to ensure that each email address provided to its employees utilizes a ".gov" domain name or a ".ca.gov" domain name. By adding to the duties of local officials, the bill would impose a state-mandated local program.

Position	Priority
Watch	B. Watch

AB 1648 **(Bains D) Water: Colorado River conservation.**
Current Text: Amended: 3/16/2023 html pdf
Status: 4/28/2023-Failed Deadline pursuant to Rule 61(a)(2). (Last location was W.,P. & W. on 3/16/2023)(May be acted upon Jan 2024)
Location: 4/28/2023-A. 2 YEAR
Summary: Would prohibit the Metropolitan Water District of Southern California and the Department of Water and Power of the City of Los Angeles from achieving a reduction in, or conservation of, Colorado River water consumption required by an agreement with specified entities through increased water deliveries or imports from other regions of California, including the San Joaquin Valley and the Sacramento-San Joaquin Delta. The bill would require the Colorado River Board of California, the Department of Water Resources, and the State Water Resources Control Board to use their existing authority to enforce these provisions. The bill would specify that these provisions apply retroactively to January 1, 2023, and apply to any agreement entered into on or after that date.

Position	Priority
Watch	B. Watch

ACA 2 **(Alanis R) Public resources: Water and Wildfire Resiliency Act of 2023.**
Current Text: Introduced: 12/5/2022 html pdf
Status: 4/20/2023-Referred to Coms. on W., P., & W. and NAT. RES.
Location: 4/20/2023-A. W.,P. & W.
Summary: Would establish the Water and Wildfire Resiliency Fund within the State Treasury, and would require the Treasurer to annually transfer an amount equal to 3% of all state revenues that may be appropriated as described from the General Fund to the Water and Wildfire Resiliency Fund. The measure would require the moneys in the fund to be appropriated by the Legislature and would require that 50% of the moneys in the fund be used for water projects, as specified, and that the other 50% of the moneys in the fund be used for forest maintenance and health projects, as specified.

Position	Priority
Out for Analysis	B. Watch

SB 3 **(Dodd D) Discontinuation of residential water service: public water system.**
Current Text: Amended: 6/15/2023 html pdf
Status: 8/23/2023-August 23 set for first hearing. Placed on suspense file.
Location: 8/23/2023-A. APPR. SUSPENSE FILE
Summary: Current law authorizes the State Water Resources Control Board to provide for the deposit into the Safe and Affordable Drinking Water Fund of certain moneys and continuously appropriates the moneys in the fund to the state board for grants, loans, contracts, or services to assist eligible recipients. This bill would require the board to, upon appropriation by the Legislature, expend moneys to provide training statewide to community water systems with between 15 and 200 service connections to meet compliance with the Water Shutoff Protection Act.

Position	Priority
Out for Analysis	B. Watch

SB 57 **(Gonzalez D) Utilities: disconnection of residential service.**
Current Text: Amended: 3/15/2023 html pdf
Status: 4/28/2023-Failed Deadline pursuant to Rule 61(a)(2). (Last location was E. U., & C. on 3/22/2023)(May be acted upon Jan 2024)
Location: 4/28/2023-S. 2 YEAR
Summary: Would require an electrical corporation, local publicly owned electric utility, gas corporation, local publicly owned gas utility, water corporation, or local agency that owns a public water system to postpone the disconnection of a customer's residential service for nonpayment of a delinquent account when the temperature will be 32 degrees Fahrenheit or cooler, or 95 degrees Fahrenheit or warmer, within the utility's service area during the 24 hours after that service disconnection would occur, as specified. The bill would require each of those utilities to notify its residential ratepayers of that requirement and to create an online reporting system available through its internet website, if it has one, that enables its residential ratepayers to report when their utility service has been disconnected in violation of that requirement, as specified. The bill would require the PUC to establish a citation program to impose a penalty on an electrical corporation or gas corporation that violates that requirement, and require each local publicly owned electric utility and local publicly owned gas utility to annually report to the State Energy Resources Conservation and Development Commission the number of residential service connections it disconnected for nonpayment of a delinquent account. The bill would authorize the State Water Resources Control Board to enforce the requirement that a water corporation and local agency that owns a public water system postpone a disconnection of a customer's residential service, as specified.

Position	Priority
Watch	B. Watch

SB 66 **(Hurtado D) Water Quality, Supply, and Infrastructure Improvement Act of 2014: Drinking Water Capital Reserve Fund: administration.**
Current Text: Amended: 3/21/2023 html pdf
Status: 4/28/2023-Failed Deadline pursuant to Rule 61(a)(2). (Last location was E.Q. on 3/29/2023)(May be acted upon Jan 2024)
Location: 4/28/2023-S. 2 YEAR
Summary: The Water Quality, Supply, and Infrastructure Improvement Act of 2014 bond act provides that the sum of $260,000,000 is to be available for grants and loans for public water system infrastructure improvements and related actions to meet safe drinking water standards, ensure affordable drinking water, or both, as specified. Current law requires the State Water Resources Control Board to deposit up to $2,500,000 of the $260,000,000 into the Drinking Water Capital Reserve Fund, to be available upon appropriation by the Legislature. Current law requires the state board to administer the Drinking Water Capital Reserve Fund for the purpose of serving as matching funds for disadvantaged communities and requires the state board to develop criteria to implement this provision. This bill would require the state board to provide an analysis of the criteria to implement that provision to the Senate Committee on Natural Resources

and Water and Assembly Committee on Water, Parks, and Wildlife on January 1, 2025, and every 2 years thereafter.

Position	Priority
Watch	B. Watch

SB 69 **(Cortese D) California Environmental Quality Act: local agencies: filing of notices of determination or exemption.**
Current Text: Amended: 7/12/2023 html pdf
Status: 8/16/2023-August 16 set for first hearing. Placed on suspense file.
Location: 8/16/2023-A. APPR. SUSPENSE FILE
Summary: The California Environmental Quality Act (CEQA) requires a local agency that approves or determines to carry out a project subject to CEQA to file a notice of determination with the county clerk of each county in which the project will be located, as provided. CEQA authorizes a local agency that determines that a project is not subject to CEQA to file a notice of exemption with the county clerk of each county in which the project will be located, as provided. CEQA requires the county clerk to make the notice available for public inspection and post the notice within 24 hours of receipt in the office or on the internet website of the county clerk, as specified. CEQA requires an action or proceeding challenging an act or decision of a public agency, including a local agency, on the grounds of noncompliance with CEQA to be commenced within certain time periods, as specified. This bill would require a local agency to file a notice of determination with the State Clearinghouse in the Office of Planning and Research in addition to the county clerk of each county in which the project will be located. The bill would authorize a local agency to file a notice of exemption with the State Clearinghouse in the Office of Planning and Research in addition to the county clerk of each county in which the project will be located. The bill would require the notice, including any subsequent or amended notice, to be posted both in the office and on the internet website of the county clerk and by the Office of Planning and Research on the State Clearinghouse internet website within 24 hours of receipt. The bill would specify that the posting of the notice by the Office of Planning and Research would not affect the applicable time periods to challenge an act or decision of a local agency, as described above.

Position	Priority
Watch	B. Watch

SB 231 **(Hurtado D) Department of Water Resources: water supply forecasting.**
Current Text: Amended: 7/12/2023 html pdf
Status: 8/23/2023-August 23 set for first hearing. Placed on suspense file.
Location: 8/23/2023-A. APPR. SUSPENSE FILE
Summary: Would require the Department of Water Resources, on or before December 31, 2025, to establish a formal process for annually evaluating and improving the accuracy of its water supply forecasts, adopt a new water supply forecasting model that better addresses the effects of climate change, and implement a formal policy and procedures for documenting its operational plans for the state's water supply and its rationale for its operating procedures. The bill would require the department, by December 1, 2024, to prepare, and submit to the Legislature, a report on its progress toward meeting these requirements.

Position	Priority
Watch	B. Watch

SB 272 **(Laird D) Sea level rise: planning and adaptation.**
Current Text: Amended: 6/6/2023 html pdf
Status: 8/16/2023-August 16 set for first hearing. Placed on suspense file.
Location: 8/16/2023-A. APPR. SUSPENSE FILE
Summary: Current law creates within the Ocean Protection Council the California Sea Level Rise State and Regional Support Collaborative to provide state and regional information to the public and support to local, regional, and other state agencies for the identification, assessment, planning, and, where feasible, the mitigation of the adverse environmental, social, and economic effects of sea level rise within the coastal zone, as provided. This bill would require a local government, as defined, lying, in whole or in part, within the coastal zone, as defined, or within the jurisdiction of the San Francisco Bay Conservation and Development Commission, as defined, to implement sea level rise planning and adaptation through either submitting, and receiving approval for, a local coastal program, as defined, to the California Coastal Commission or submitting, and receiving approval for, a subregional San Francisco Bay shoreline resiliency plan to the San Francisco Bay Conservation and Development Commission, as applicable, on or before January 1, 2034, as provided. By imposing additional requirements on local governments, the bill would impose a state-mandated local program. The bill would require local governments that receive approval for sea level rise planning and adaptation on or before January 1, 2029, to be prioritized for sea level rise funding, upon appropriation by the Legislature, for the implementation of projects in the local government's approved sea level rise adaptation plan.

Position	Priority
Watch	B. Watch

SB 315 **(Hurtado D) Groundwater: groundwater sustainability agencies: probationary basins.**
Current Text: Amended: 4/20/2023 html pdf
Status: 5/19/2023-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/1/2023)(May be acted upon Jan 2024)
Location: 5/19/2023-S. 2 YEAR
Summary: The Sustainable Groundwater Management Act authorizes the State Water Resources Control Board to designate specified basins as probationary basins if certain conditions are met, including, but not limited to, that the Department of Water Resources, in consultation with the board, determines that a groundwater sustainability plan is inadequate or that the groundwater sustainability program is not being implemented in a manner that will likely achieve the sustainability goal. Current law requires the board, if it designates a basin as a probationary basin pursuant to specified conditions, to identify the specific deficiencies and potential remedies. Current law authorizes the board to request the department, within 90 days of the designation, to provide technical recommendations to local agencies to remedy the deficiencies and to develop an interim plan for the probationary basin one year after the designation, as specified. This bill would require any groundwater sustainability agency that hires a third-party consulting firm to ensure that the integrity of the science being used to develop a groundwater sustainability plan is protected and the data is not sold. The bill would delete the authorizations for the board to request technical recommendations from the department. The bill would additionally place various requirements on the board in working with a groundwater sustainability agency, including, among other things, requiring the board to provide clear benchmarks and guidance for groundwater sustainability agencies to improve their groundwater management plans.

Position	Priority
Watch	B. Watch

SB 504 **(Dodd D) Wildfires: defensible space: grant programs: local governments.**
Current Text: Amended: 4/20/2023 html pdf
Status: 7/14/2023-Failed Deadline pursuant to Rule 61(a)(10). (Last location was NAT. RES. on 5/11/2023)(May be acted upon Jan 2024)
Location: 7/14/2023-A. 2 YEAR
Summary: Current law requires the Director of Forestry and Fire Protection to establish a common reporting platform that allows defensible space and home hardening assessment data, collected by the qualified entities, to be reported to the department. Current law requires the department to establish a local assistance grant program for fire prevention and home hardening education activities and provides that local agencies, among others, are eligible for these grants. Current law requires the State Fire Marshal to identify areas of the state as moderate, high, and very high fire hazard severity zones based on specified criteria. Current law requires a local agency to designate, by ordinance, moderate, high, and very high fire hazard severity zones in its jurisdiction within 120 days of receiving recommendations from the State Fire Marshal, and authorizes a local agency, at its discretion, to include areas within the jurisdiction of the local agency, not identified as moderate, high, and very high fire hazard severity zones by the State Fire Marshal, as moderate, high, and very high fire hazard severity zones, respectively. This bill would require the department, when reviewing applications for the local assistance grant program, to give priority to any local governmental entity that is qualified to perform defensible space assessments in very high and high fire hazard severity zones who reports that information using the common reporting platform, as provided.

Position	Priority
Watch	B. Watch

Dead Bill

AB 422 **(Alanis R) Natural Resources Agency: statewide water storage: tracking.**
Current Text: Introduced: 2/2/2023 html pdf
Status: 4/28/2023-Failed Deadline pursuant to Rule 61(a)(2). (Last location was W.,P. & W. on 2/9/2023)(May be acted upon Jan 2024)
Location: 4/28/2023-A. 2 YEAR
Summary: Would require the Natural Resources Agency, on or before June 1, 2024, to post on its publicly available internet website information tracking the progress to increase statewide water storage, and to keep that information

updated.

Position	Priority
Watch	Dead Bill

Total Measures: 47

Total Tracking Forms: 47

AGENDA ITEM NO. 6.A

DATE: September 5, 2023

TO: JPA Board of Directors

FROM: Engineering and External Affairs

SUBJECT: Climate Action and Adaptation Plan (CAAP): Draft

SUMMARY:

The State of California has enacted legislation over the past several years that aims to reduce greenhouse gas emissions to mitigate the effects of climate change. On January 9, 2023, the JPA authorized the Administering Agent/General Manager to execute a professional services agreement with Rincon Consultants, Inc., for the development of a Climate Action and Adaptation Plan (CAAP). Since that time, the CAAP has been under development and covers both JPA and LVMWD-only operations. Once completed, the CAAP will provide a roadmap for reducing greenhouse gas (GHG) emissions in alignment with state goals. The CAAP will also provide guidance for increasing the resilience of critical facilities, infrastructure, services and resources. On July 10, 2023, the JPA Board received and filed a progress report on the CAAP and provided preliminary comments to staff. A draft of the CAAP report has been completed and is now being transmitted to the JPA Board for review and comment.

RECOMMENDATION(S):

Review and comment on the draft Climate Action and Adaptation Plan (CAAP).

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with the recommended action. It is important to note that specific measures and actions outlined in the report pertaining to JPA facilities and operations will not be acted upon without prior JPA Board authorization. The CAAP provides a “roadmap” for staff to pursue future studies, which will help determine the feasibility of implementing specific measures and actions.

DISCUSSION:

The State of California has enacted legislation over the past several years that aims to reduce greenhouse gas emissions to mitigate the effects of climate change. Signed into law by Governor Brown in 2016, Senate Bill (SB) 32 established a requirement to reduce statewide GHG emissions by 40 percent below 1990 levels by the year 2030. Executive Order (EO) B-55-18 set a longer-term target to achieve carbon neutrality by the year 2045. While the JPA

and its members are not directly required to meet these targets, the JPA should do its part to limit its carbon footprint, while simultaneously preparing for the effects of climate change that lie ahead. Future legislation and regulations may also set mandates on water and wastewater utilities because the conveyance and treatment of water accounts for a large percentage of the state's energy demands. Additionally, most grant and low-interest loan programs now require applicants to have an adopted CAAP to be eligible and competitive for funding. The development of a CAAP will ensure that the JPA remains competitive for grants and low-interest loans, particularly those for the Pure Water Project Las Virgenes-Triunfo. A CAAP is also necessary for renewal of the NPDES Permit for the Tapia Water Reclamation Facility.

LVMWD and Triunfo Water and Sanitation District (TWSD) were “ground zero” for the most recent drought emergency in Southern California. The acute local impact was due in part to the location of the two service areas within the broader service territory of Metropolitan Water District of Southern California (MWD). Both districts are part of MWD's State Water Project-dependent areas that were hit especially hard with water shortages beginning on June 1, 2022. Water conservation was the primary near-term means of response to the drought emergency. However, for the long-term, LVMWD and TWSD have been working together through the JPA on planning and design efforts for the Pure Water Project Las Virgenes-Triunfo. Once completed, the Pure Water Project Las Virgenes-Triunfo will diversify the water supply portfolio available to both agencies. Water supply diversification is a key strategy for climate change adaptation.

On January 9, 2023, the JPA authorized the Administering Agent/General Manager to execute a professional services agreement with Rincon Consultants, Inc., for the development of a CAAP. The CAAP will provide a roadmap for reducing GHG emissions in alignment with state goals. The CAAP will also provide guidance for increasing the resilience of critical facilities, infrastructure, services and resources. Benefits include additional state funding opportunities that can assist with infrastructure and operational costs; mitigation of risks associated with future state requirements; and the identification, development and implementation of solutions for inefficiencies and vulnerabilities. JPA operations primarily consists of those associated with the Tapia Water Reclamation Facility, Rancho Las Virgenes Composting Facility and “backbone” recycled water facilities. The CAAP also incorporates LVMWD-only operations.

On July 10, 2023, the JPA Board received and filed a progress report on the CAAP and provided preliminary comments to staff. Since that time, a draft of the CAAP report has been completed and is now being transmitted to the JPA Board for review and comment. Currently, staff seeks comments on the portions of the draft report that pertain to JPA facilities and operations. Any comments will be incorporated as appropriate before the CAAP is finalized and brought to the JPA Board for adoption on October 2, 2023.

GOALS:

Construct, Manage and Maintain all Facilities and Provide Services to Assure System Reliability and Environmental Compatibility

Prepared by: Joe McDermott, Director of Engineering and External Affairs

ATTACHMENTS:
Draft Climate Action and Adaptation Plan

Climate Action and Adaptation Plan (DRAFT)

August 2023

Rincon Consultants

1. Introduction

A Climate Action and Adaptation Plan (CAAP) for a municipal water district provides a strategic framework of measures and strategies designed to address the impacts of climate change on water resources, water supply, and water and wastewater infrastructure within the jurisdiction of Las Virgenes Municipal Water District (LVMWD or District) and the Las Virgenes – Triunfo Joint Powers Authority (JPA). The goal of a CAAP is to both mitigate the District's contributions to climate change (climate action) and to adapt operations and systems to the threats and impacts of a changing climate (climate adaptation). A well-developed CAAP for a water district plays a crucial role in ensuring a reliable and resilient water supply and wastewater services in the face of climate change challenges. It demonstrates a proactive commitment to both mitigating the District's impact on climate change and adapting to the changing conditions to provide safe and sustainable water and wastewater services to the community.

LVMWD Mission and Vision

The CAAP supports LVMWD's mission is to provide high-quality, reliable water service in a cost-effective and environmentally sensitive manner. This mission applies to all LVMWD activities, as LVMWD provides drinking water, recycled water, and wastewater services and biosolids composting.

To meet LVMWD's mission, this CAAP was developed to align with LVMWD's goals and long-range planning efforts, with the intent to adapt District operations and infrastructure to a changing climate and reduce greenhouse gas (GHG) emissions associated with water treatment and distribution over time. Through innovative strategies, collaborative partnerships, and responsible stewardship, LVMWD aspires towards a sustainable, cost effective, and equitable water supply, valuing every drop and bringing water full circle. By embracing adaptive measures and progressing towards carbon neutrality, LVMWD is dedicated to providing high-quality water in a cost effective and environmentally resilient manner. The following section provides an overview of the CAAPs purpose, LVMWDs system overview, and the plans that the CAAP was developed in alignment with to ensure cohesion among long-range planning efforts by LVMWD.

CAAP Purpose

The CAAP is a long-range planning document that provides LVMWD with a roadmap for achieving long-term GHG emissions reduction and improved resilience to climate change impacts in alignment with the State of California goals, mandates, and current legislation. The CAAP includes an analysis of LVMWD operations and associated GHG emissions sources, forecasts future emissions, highlights climate vulnerabilities, and establishes emissions reduction and adaptation goals and strategies. This CAAP is intended to inform future policy and planning decisions on operations, water resources, capital investments, conservation, and local resource programs. Additionally, the CAAP aligns with LVMWD's long-range plans including the 2020 Las Virgenes Municipal Water District Urban Water Management Plan, 2014 Integrated Master Plan for Las Virgenes Municipal Water District and Triunfo Sanitation District (IMP), and 2019 Hazard Mitigation Plan. The CAAP will support LVMWD's efforts to adjust operations as feasible to adapt to climate change effects and to obtain infrastructure grant/loan funding necessary for increasing resiliency.

The CAAP establishes GHG emissions reduction targets that align with those goals set by the State of California, as well as with the international consensus regarding the GHG reductions needed to avoid the

most serious climate change impacts. The emissions inventory and forecast presented in Chapter 4 provide a basis for LVMWD to establish targets for future GHG reductions. LVMWD is establishing an annual reduction rate to meet the State's 2045 carbon neutrality goal, as set forth by Assembly Bill (AB) 1279. By setting a straight line to the 2045 target, LVMWD commits to reducing mass GHG emissions 69 percent below 1990 levels by 2030, surpassing Senate Bill 32, which requires a 40 percent reduction in emissions from 1990 levels.

The CAAP creates a roadmap that will provide LVMWD with a broad range of strategies and measures to mitigate or reduce GHG emissions in line with State goals based on operational feasibility, cost, and the availability of state and federal grant funding. The CAAP will help LVMWD reduce overall GHG emissions from its operations and will align LVMWD with State mandates and legislation, while providing consistency with LVMWD's mission. In addition to establishing a pathway to LVMWD's emissions reduction goal of 69 percent below 1990 levels by 2030 and carbon neutrality by 2045, the CAAP:

- Incorporates legislation and guidance from State, federal, and international sources
- Identifies cost-effective energy efficiency and decarbonization measures
- Provides co-benefits, such as improved operational resilience and air quality
- Integrates actions to transition away from fossil fuel use in alignment with California's clean fleet goals and overall strategies to reduce GHG emissions from the transportation sector

CAAP Intent and Use

The CAAP provides a comprehensive analysis of LVMWD's climate threats and operational GHG emissions sources, as well as a programmatic guide for opportunities to increase resiliency and reduce GHG emissions. This CAAP is not intended to serve as a qualified GHG Reduction Plan per the California Environmental Quality Act (CEQA) requirements of Section 15183.5(b). Although the CAAP discusses climate-related impacts and provides GHG reduction strategies, it cannot be used to tier or streamline development projects as it relates to CEQA requirements. LVMWD provides a critical service that is their priority; LVMWD is also committed to implementing GHG reduction strategies to the extent feasible and cost-effective. The CAAP's intent is to serve as an informative document that introduces concepts related to climate action planning and establishes a set of strategies that align with the State's GHG-reduction goals and associated legislation that LVMWD can implement to reduce GHG emissions. By defining specific reduction goals, LVMWD can track its progress towards meeting its goals and measure the success of its CAAP strategies. LVMWD is committed to developing new measures and strategies, leverage emerging technologies and products, and updating the CAAP in an effort to adapt to emerging climate threats and maintain progress with the established carbon neutrality target.

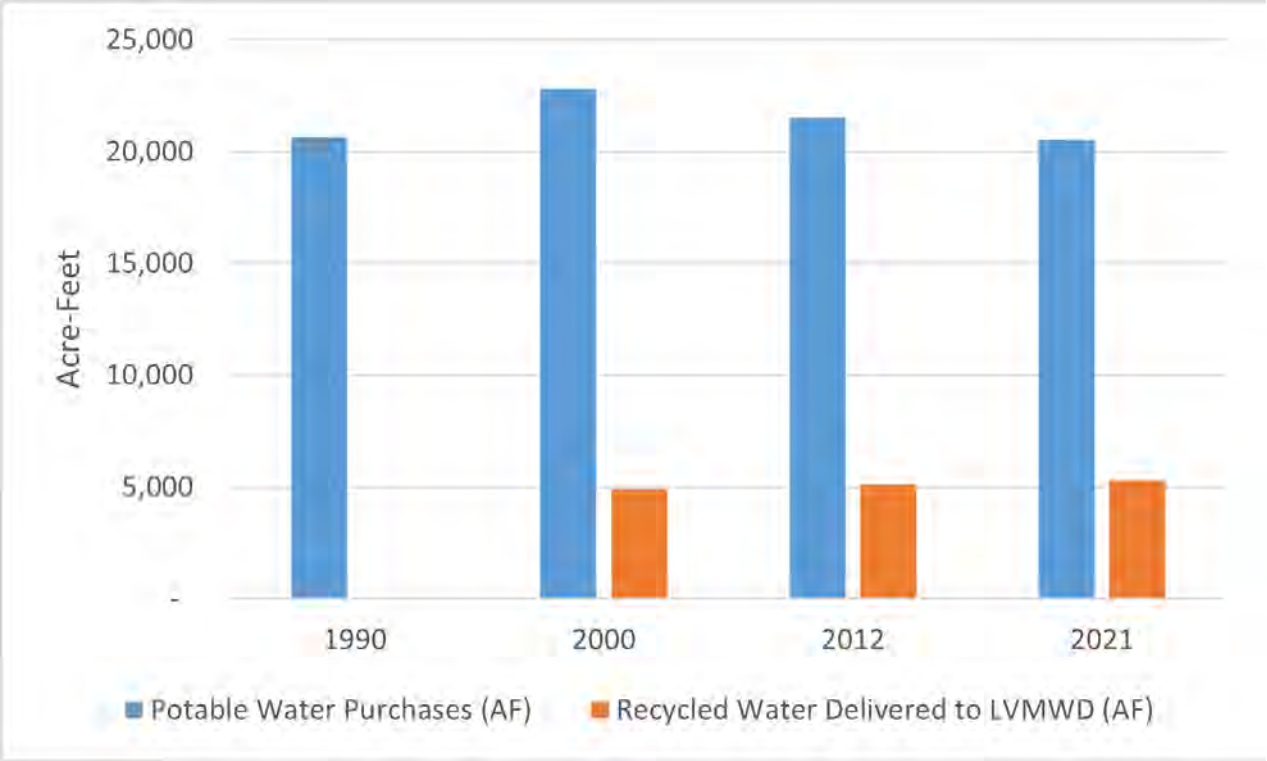
LVMWD System Overview

This CAAP covers LVMWD exclusively and the Las Virgenes-Triunfo Joint Power Authority (JPA) operations. In the CAAP, LVMWD and JPA are referred to throughout as LVMWD. LVMWD acts as Administering Agent for JPA, a long-term partnership between LVMWD and the Triunfo Water and Sanitation District (TWSD). The JPA co-owns, and LVMWD operates and maintains, several shared wastewater facilities, including the Tapia Wastewater Reclamation Facility, a backbone reclamation water main, the Rancho Las Virgenes Composting Facility, spray fields for seasonal disposal of excess recycled water, and a 5-megawatt solar farm. GHG emissions associated with the operation and

maintenance of TWSD's infrastructure are not measured as part of the GHG inventory, as outlined in Chapter 4.

LVMWD provides potable water, wastewater treatment, recycled water, and biosolids composting to more than 75,000 residents in the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village, and unincorporated areas of western Los Angeles County. LVMWD's potable water distribution system includes 25 storage tanks, 24 pump stations, and almost 400 miles of pipelines. LVMWD's recycled water system consists of 62 miles of pipelines, 3 storage tanks, 3 open reservoirs, and 4 pump stations. The potable water system serves potable retail customers, primarily residential, and the recycled water system provides water resources to irrigate parks, golf courses, roadway landscapes, commercial properties, and multi-family landscapes. Water delivered per year, in acre-feet (AF), by LVMWD in 2000, 2012, and 2021 is shown in Figure 1-1. Water deliveries for these years are shown in alignment with years included in the multi-year GHG inventory, as seen in Chapter 4. Highlighting 1990, 2000, 2012, and 2021 illustrates shifts in water deliveries over two decades of service. LVMWD's GHG emissions associated with these water deliveries are primarily from the purchase and consumption of electricity used for water treatment, conveyance, and delivery of water throughout LVMWD's service area, as well as emissions associated with the Tapia Water Reclamation Facility.

Figure 1-1 Water Delivered for Select Years (AF) by LVMWD



LVMWD Long-Range Planning

As an urban water supplier, LVMWD is required to prepare an Urban Water Management Plan (UWMP) every 5 years in response to the requirements of the UWMP Act, California Water Code Sections (CWC) 10610 through 10656. UWMPs are required to support the long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs over a 20-year planning horizon during different climate scenarios. In July 2021, LVMWD's Board of Directors approved the most

recent 2020 Urban Water Management Plan (UWMP 2021). LVMWD coordinated their planning efforts with several local water agencies to calculate demand projections, characterization of shared supplies, and planning for potential water shortages. This partnership included Calleguas Municipal Water District, Triunfo Water and Sanitation District, and The Metropolitan Water District of Southern California (MWD). To be consistent with anticipated growth in operations, water supply and demand projections are incorporated into the CAAP.

The 2014 Integrated Master Plan for Las Virgenes Municipal Water District and Triunfo Sanitation District (IMP) summarizes the findings of the Potable Water Master Plan, Sanitation Master Plan, and Recycled Water Master Plan, all adopted in 2014. The Potable Water Master Plan and Recycled Water Master Plan each evaluate historical and future water demands making several recommendations to secure water and avoid additional costs. The Sanitation Master Plan includes recommendations for specific sanitation projects for LVMWD to undertake such as refurbishment of existing assets, operation optimization, and sanitation system upgrades to allow LVMWD to plan for expansion and projected capacity needs in the future. The IMP recommends relieving demands from the potable system through specific recycled water construction projects and re-working the wastewater system to be more easily managed. Therefore, the CAAP aligns with and highlights opportunities within the IMP to reduce GHG emissions as a co-benefit.

Other long range planning documents such as the 2019 Las Virgenes Municipal Water District Hazard Mitigation Plan, have identified hazards that LVMWD is vulnerable to and recommend specific actions to minimize such vulnerabilities. This hazard mitigation plan developed by LVMWD explicitly sets a goal to increase the resiliency of LVMWD by "reducing risk from hazards by identifying resources, information, and strategies for risk reduction, while helping guide and coordinate mitigation activities." Included in the plan is a series of hazard mitigation actions to be completed by LVMWD over the next few years to address hazards. The CAAP complements the strategies and hazard mitigation actions detailed in the Hazard Mitigation Plan.

History and Current Operations

This section provides an overview of LVMWD's history and operations, including its water supply sources, treatment requirements, and infrastructure.

LVMWD Formation and Service Area

LVMWD was formed in 1958 to supply imported water to western Los Angeles County. The LVMWD service area, shown in Figures 1-2.1 and 1-2.2, is located in the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village, and unincorporated areas of western Los Angeles County and within the South Coast Hydrologic region, as defined by the Department of Water Resources.

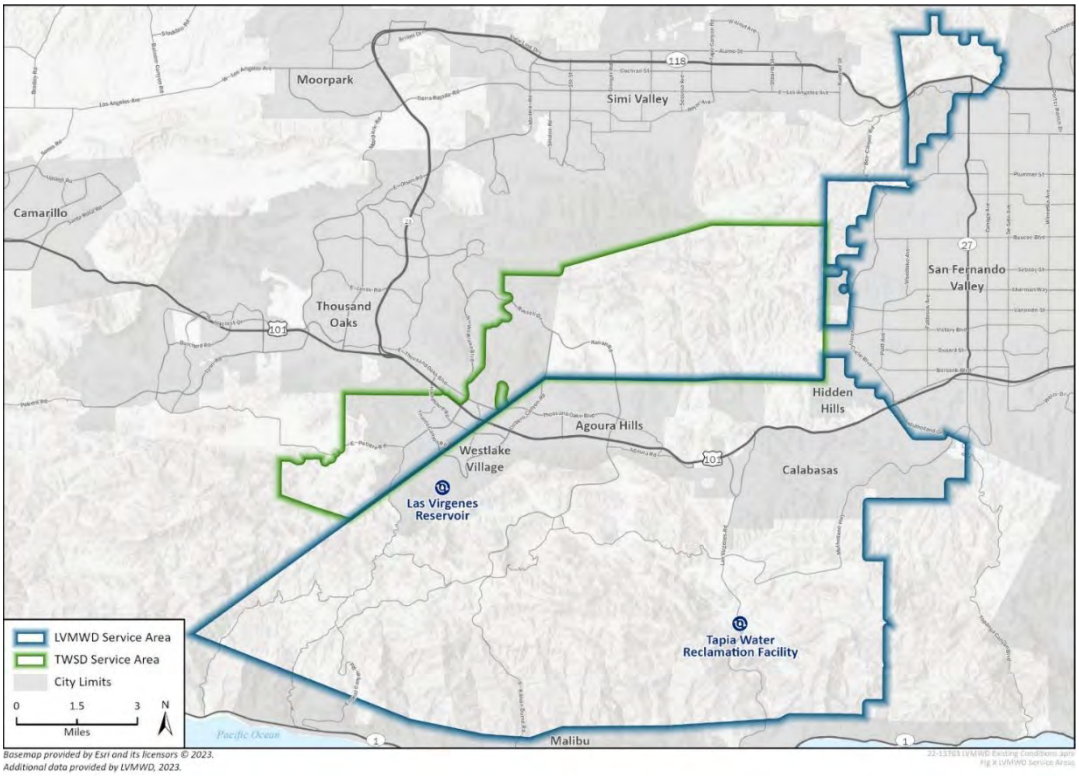
The climate of LVMWD's service areas is characterized as semi-arid, with mild winters, warm summers, and moderate rainfall. The usually mild climate occasionally has periods of extremely hot weather, winter storms, or hot and dry Santa Ana winds.

Figure 1-2.1 LVMWD Vicinity Map

LVMWD Water Sources and Supply

LVMWD obtains its water from various sources, including treated, drinkable water brought in from the MWD, recycled water derived from the TWRF, groundwater from the Russell Valley Basin in Westlake Village (used to complement the TWRF), and surface runoff collected into the Las Virgenes Reservoir. The imported water provided to LVMWD originates from the State Water Project (SWP). The water resources have been carefully managed by LVMWD to enhance water reliability, employing a strategy that emphasizes aggressive use of recycled water, minimal reliance on groundwater to supplement recycled water supplies, and storing water in Las Virgenes Reservoir during low-demand periods in the winter to meet peak demand periods during summer months.

Figure 1-2.2 LVMWD and Triunfo Service Areas



Domestic Water Delivery

LVMWD serves over 70,000 residents within a service area spanning 122 square miles, offering potable water, recycled water, and sanitation services. The water distribution system comprises 22 primary pressure zones, more than 400 miles of pipelines, 24 pumping stations, 25 storage tanks, and over 75 pressure regulating stations.

Wastewater and Recycled Water

LVMWD operates the TWRF, which processes an average of 9.5 million gallons per day (MGD) of wastewater and has a total capacity of 16 MGD. The TWRF employs treatment methods to purify the wastewater to a high level, enabling its use for non-potable purposes like landscape irrigation and various commercial applications. Approximately 20 percent of all water supplied by LVMWD is recycled for irrigation purposes. The solid by-products generated during the treatment process are transported through a 4-mile-long buried pipeline to the Rancho Las Virgenes composting facility. At this facility, the solids undergo anaerobic digestion, dewatering, and composting, resulting in Class A Exceptional Quality compost that is made available for use by the public.

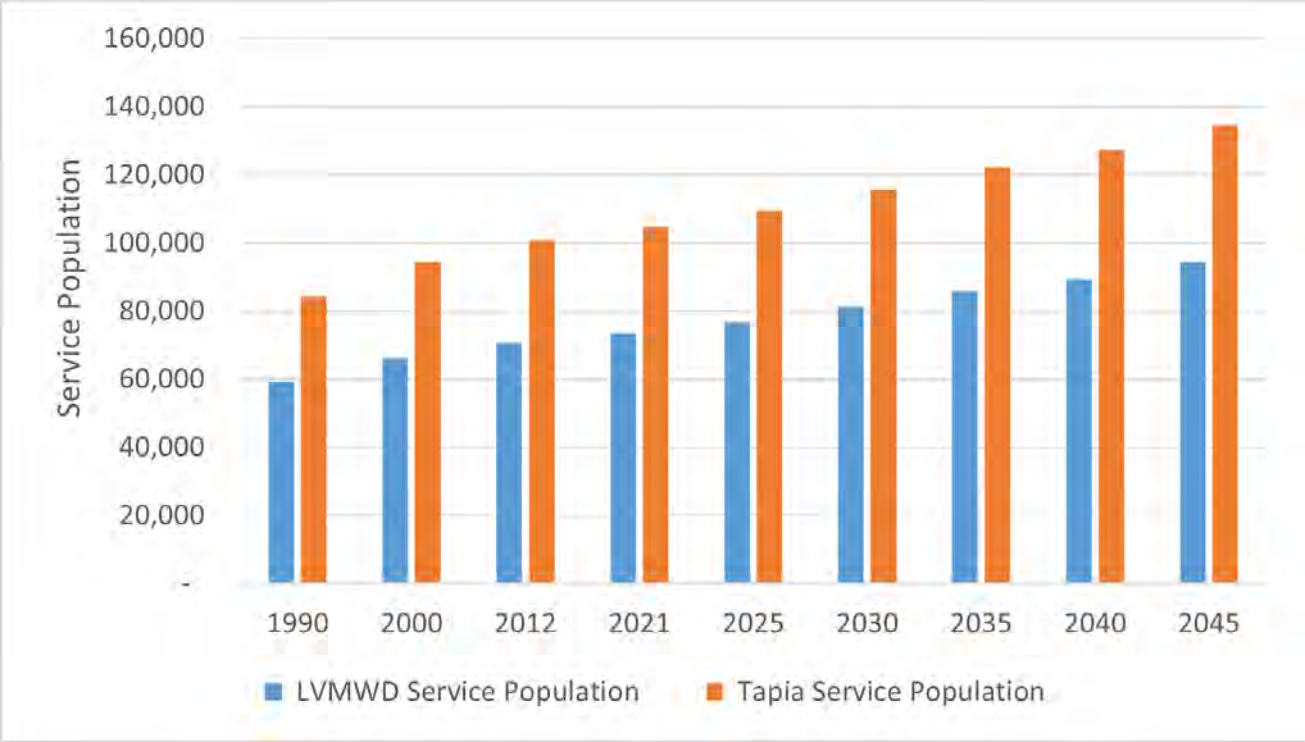
LVMWD Environmental Commitment and GHG Reduction History

LVMWD's GHG emissions are primarily related to the purchase and consumption of electricity used for operations and wastewater treatment throughout the LVMWD service area. Future GHG emissions are anticipated to increase due to expansion of LVMWD's services and increases in LVMWD's service population estimated in the 2020 UWMP. As shown in Figure 1-3, service populations for LVMWD only (LVMWD Service Population) and for the areas served by the JPA that includes both LVMWD and Triunfo Water and Sanitation District services areas (Tapia Service Population) are estimated to grow from approximately 73,435 and 104,651 in 2021 to 94,392 and 134,516 in 2045, respectively. Chapter 4 describes LVMWD's historic, current, and forecasted emissions in further detail.

Furthermore, impacts from the changing climate such as increased frequency and severity of drought conditions are projected to potentially impact the quantity and quality of local water supplies, as well as the availability of imported water from the SWP. Chapter 3 describes LVMWD's climate change exposure and vulnerabilities in further detail.

Prior to development of this CAAP, which is LVMWD's first climate action and adaptation planning document, LVMWD has already substantially reduced its GHG emissions through the implementation of operational efficiencies, renewable energy projects, and water conservation programs into their services. Some of these efforts and the associated effects on reducing GHG emissions are summarized below.

Figure 1-3 Historical and Forecasted Service Population by LVMWD and TWRF



Infrastructure Energy Efficiency and Renewable Energy

LVMWD has continually invested in projects and efforts to upgrade infrastructure and improve the energy efficiency of its operations. This has included installing a solar system to reduce LVMWD's reliance on fossil fuels and increase energy resilience. The solar energy allows LVMWD to cut energy costs over time and reduce GHG emissions. A back-up battery storage system under construction at the Rancho Composting Facility will provide additional resiliency. Additionally, LVMWD has completed LED upgrades at District Headquarters and TWRF, leading to increased energy efficiency, decreased electricity consumption, and reduced GHG emissions.

LVMWD contracted to buy power from a Solar Power Generation Facility (operational in 2014), which is owned and operated by Solar City at a fixed cost over a 20-year period. This facility is designed to generate peak power of approximately 1 million watts or one megawatt, which is used to pump recycled water for regional use. Solar City has estimated that over its lifetime, the solar facility will prevent more than 82 million pounds of carbon from entering the atmosphere or the equivalent of removing 750 cars from the road.[1] Operational in 2021, LVMWD's Solar Generation Project Phase II was developed to provide an additional 4 megawatts of renewable energy to LVMWD. At the time of development, this solar facility was projected to reduce electrical costs by an estimated $10.3 million over a 25-year

1 LVMWD. N.d. Solar Power Generation Facility. https://www.lvmwd.com/our-services/wastewater-services/solar-power-generation-facility#:~:text=The%20solar%20power%20generation%20facility,recycled%20water%20for%20regional%20use.

period. The amount of power generated from the combined 5 megawatt solar facility is enough to operate the TWRF.[2]

Water Conservation and Reliability

LVMWD has developed strategies for water conservation through the Comprehensive Water Conservation Plan,[3] which aligns their water conservation targets with State goals. The plan outlines several water conservation programs aimed at reducing water use, reducing water costs for customers, and meeting state water conservation goals. Current LVMWD water conservation efforts include:

- Weather based Irrigation Controller Giveaway/Rebate Program
- High Water Use Account Review and One-on-One Consultations
- Rain Barrel Giveaway/Rebate Program
- Development and Implementation of a Landscape Transformation Initiative
- Improved Education and Outreach Efforts
- Advanced Water Meter Protect

These efforts have led to an estimated water reduction of 421 AF per year, since 2018. As of 2023, the Weather Based Irrigation Controller Giveaway/Rebate Program has provided over 2,000 smart controllers to customers. LVMWD is actively developing additional programs to further water conservation efforts. Specifically, the Landscape Transformation Program, launched in 2023, will further efforts to promote the transformation to water efficient landscaping.

LVMWD is committed to ensuring that its customers have access to reliable drinking water resources. The Pure Water Project Las Virgenes - Triunfo will play a critical role in LVMWD providing reliable water in the future. The project, a joint effort between the LVMWD and TWSD, is currently in the development stages, and will take surplus recycled water from the TWRF and further purify the water to meet or exceed drinking water standards. This effort is critical to helping ensure long-term drinking water supply reliability as LVMWD is currently reliant on imported drinking water from the State Water Project. Pure Water operations are expected to come online by no later than 2030.

Vehicle Fleet

LVMWD'S Advanced Meter Project[4] is minimizing fleet vehicle usage as customers with advanced meters will no longer need in-person monthly meter reads, leading to fewer LVMWD fleet vehicles on the road for meter reading. This significantly reduces fleet vehicle usage and reduces LVMWD's GHG emissions.

2 LVMWD. N.d. Solar Generation Project Phase II. https://www.lvmwd.com/the-district/departments/engineering-and-external-affairs/technical-services-planning-engineering/master-plans-and-engineering-documents/solar-generation-project-phase-ii

3 Comprehensive Water Conservation Plan. LVMWD. 2020. https://www.lvmwd.com/home/showpublisheddocument/13413/637600622563770000

4 LVMWD. Advanced Meter Project. 2023. https://www.lvmwd.com/our-services/construction-projects/lvmwd-advanced-meter-program

Wildfire Mitigation and Energy Resilience

LVMWD's service area is extremely at risk of wildfire. LVMWD is committed to implementing measures to mitigate future wildfire risk, potential damage to facilities and infrastructure, power outages, and associated service disruptions. Completed and ongoing efforts to minimize wildfire risk and increase resilience to power outages include:

- Implementing vegetation and landscape management practices that minimize flammable materials
- Clearing brush and trimming trees around critical infrastructure
- Conducting structure hardening upgrades to improve resilience to wildfires
- Completing the implementation of upgrades to LVMWD facilities that were identified to include the installation of emergency power generation systems
-

2. Scientific Context for Climate Change

2.1 Climate Change Causes

While the scientific understanding of climate change continues to evolve, the mechanisms driving climate change have been well understood for decades. These mechanisms include the release of GHG emissions associated with human activities into Earth's atmosphere and the effects on the global climate. This section provides an overview of the scientific context of climate change attributed to human activity.

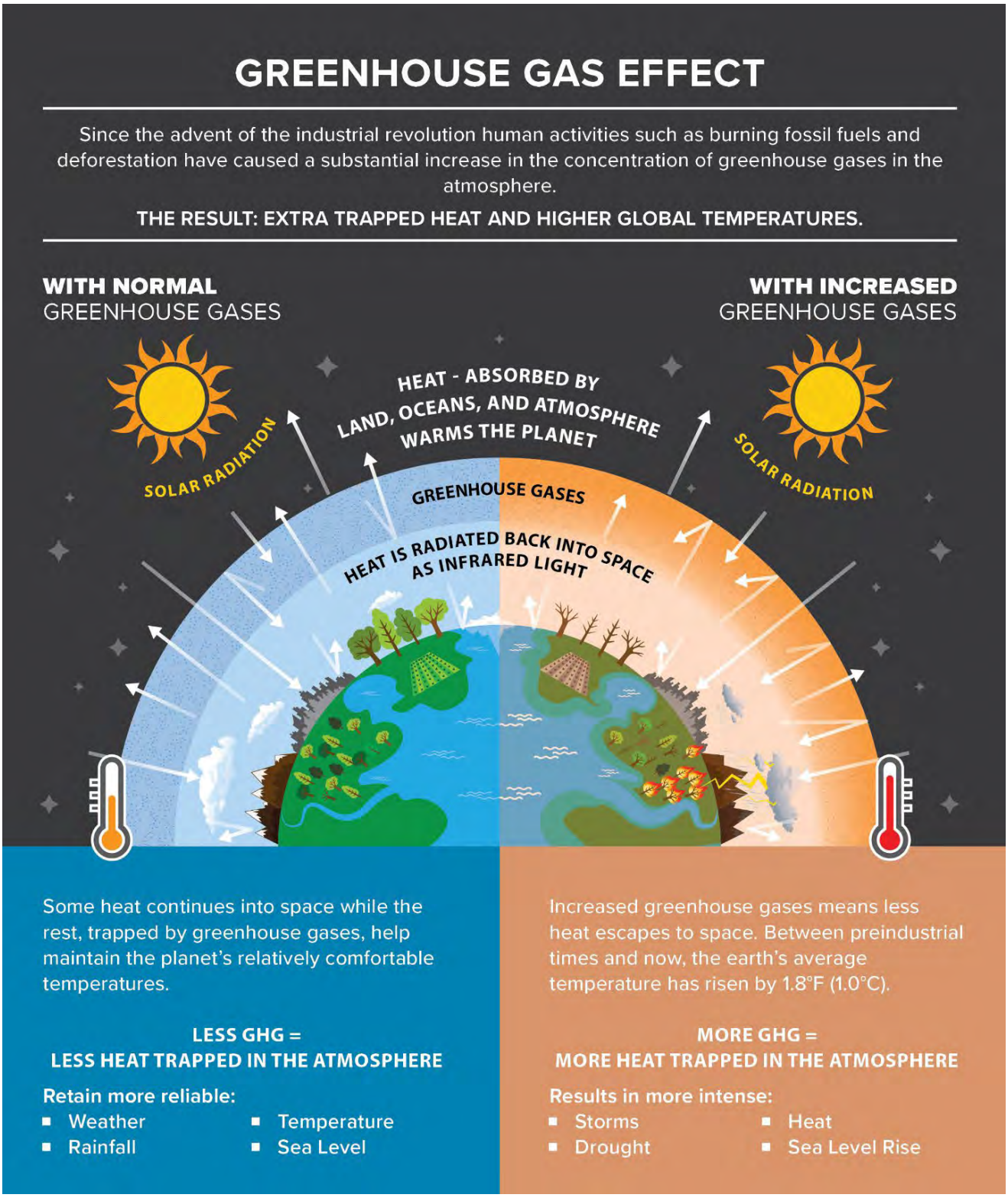
2.1.1 GHG Effect and Emissions Sources

Below is a discussion of the effects of GHG emissions, impacts of global warming, as well as a discussion of GHG emission sources, including those specific to LVMWD's and JPA's operations.

GHG Effect

Most of the energy that affects the Earth's climate comes from the sun. When solar radiation reaches the Earth, some fraction is absorbed by the Earth's surface, and some is reflected back into space. Gases in the Earth's atmosphere act like a blanket reducing the amount of energy radiated back into space from Earth's surface resulting in heat being trapped within the atmosphere. This is known as the "greenhouse effect" because atmospheric gases function similar to the windows in a greenhouse, which trap the Sun's rays and create a much warmer space inside the greenhouse than the outside air. The greenhouse effect regulates the Earth's climate, maintaining conditions suitable for life on Earth. However, a rapid increase of GHG emissions can cause excess heat to be trapped, affecting global temperatures and climate. More specifically, human activity, such as burning fossil fuels to generate electricity and heat, and the transportation of people and materials in vehicles has increased the amount of GHGs emitted into the atmosphere. The increase of emitted GHGs has led to an increased adsorption of infrared radiation by the Earth's atmosphere and increased temperatures near the surface. This process is depicted in Figure 2-1.

Figure 2-1 Greenhouse Gas Effect and Associated Climate Impacts[1]

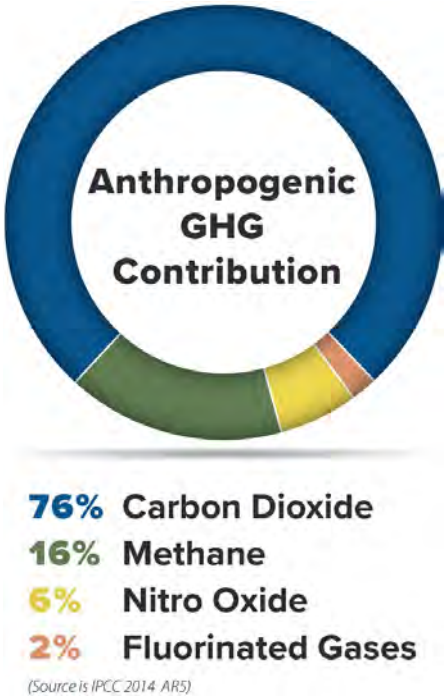


1 Information in Figure 2-1 regarding the GHG effect was obtained from https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

Global Warming Potential

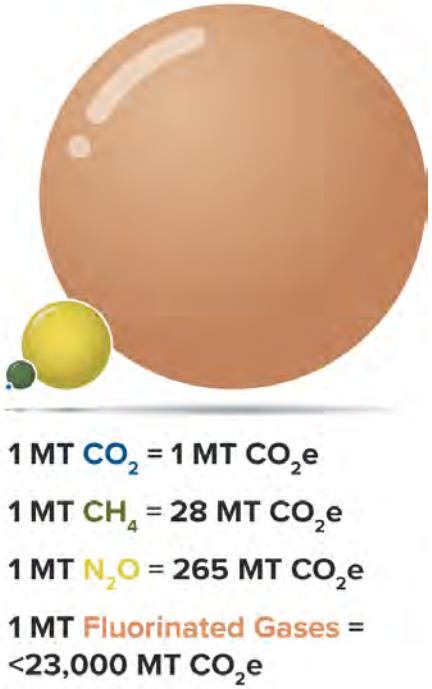
The primary GHGs that are most responsible for the radiative greenhouse effect on Earth include carbon dioxide (CO_2), methane (CH_4), and nitrous oxides (N_2O). CO_2 contributes approximately 76 percent of total GHG emissions, largely due to combustion of fossil fuel for energy generation and fuel use. As shown in Figure 2-2, CH_4 and N_2O from agriculture and industrial activities contribute approximately 16 percent and 6 percent, respectively, to total GHG emissions. Other GHGs that are used in products and processes include fluorinated gases, which are released in small quantities that contribute about two percent of overall emissions.

Figure 2-2 GHG Global Contribution



Each GHG has its own global warming potential (GWP), which refers to the extent to which the GHG traps energy in the atmosphere.[2] The determination of a GHG's GWP utilizes CO_2 as a reference point and compares the potential impact of different GHGs where CO_2 has a GWP of 1. Using the latest 100-year GWP values published in the International Panel on Climate Change (IPCC) *Fifth Assessment Report* (IPCC 2014), CH_4 has a GWP of 28, meaning that each unit of CH_4 causes 28 times more global warming potential than 1 unit of CO_2, while N_2O has a GWP of 265.[3,4] Other GHGs include the fluorinated gases, which can have a GWP of up to 23,500. IPCC publishes Assessment Reports to update GWPs of several GHGs following advances in scientific knowledge on the radiative efficiencies and atmospheric lifetimes of GHGs. The IPCC's *Fifth Assessment Report* (2014) is among the most current and comprehensive peer-reviewed assessments of climate change. When individual GHGs are normalized based on their GWPs, we refer to them as carbon dioxide equivalents or CO_2e. Generally, GHG emissions are quantified in terms of metric tons (MT) CO_2e emitted per year. Figure 2-3 shows a comparison of the most common GHGs and their GWPs.

Figure 2-3 Comparison of GHG GWPs



While CO_2 has the lowest GWP of the GHGs, it is by far the largest contributor to climate change effects due to the total mass of anthropogenic CO_2 emissions released annually; this is largely due to the combustion of fossil fuels. Since the start of the

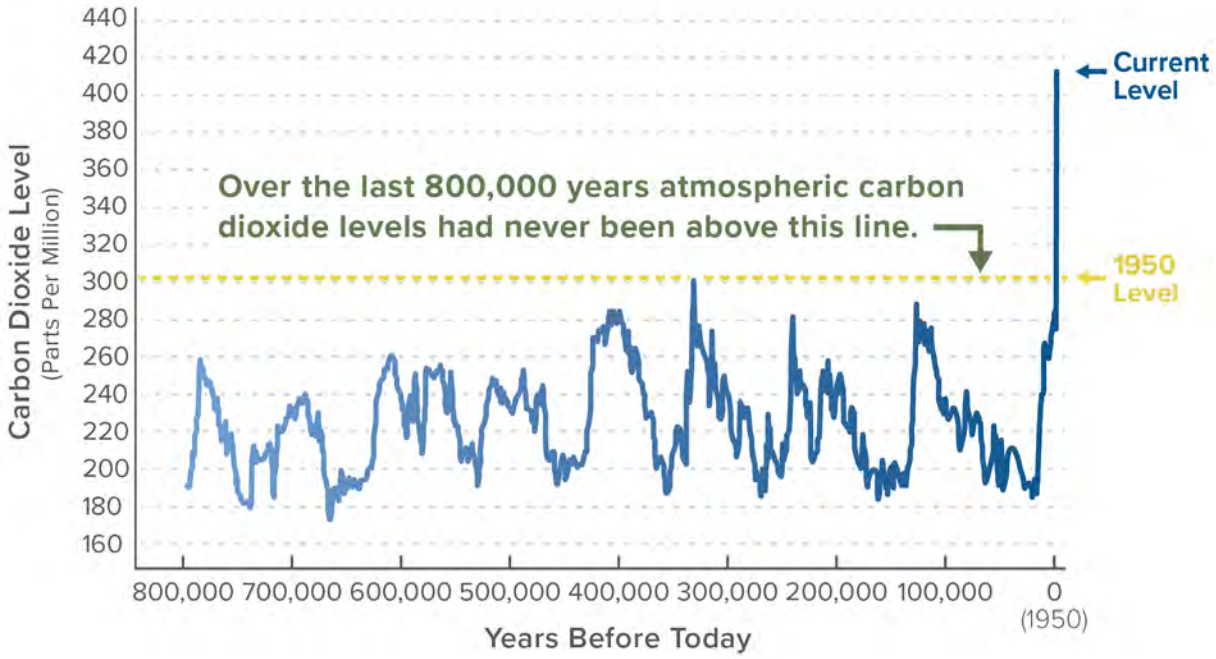
2 According to the United States Environmental Protection Agency, the GWP was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of one ton of a gas will absorb over a given period of time, relative to the emissions of one ton of CO_2 (EPA 2017).

3 International Organization for Standardization (ISO) published ISO 14064-1 in 2006 (revised 2018) to provide an international standard for the quantification and reporting of GHG emissions.

4 Greenhouse Gas Protocol. 2016. https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf

industrial revolution in the mid-nineteenth century, human activities have been emitting large quantities of GHGs into the atmosphere, enough to nearly double the amount of CO_2 from 280 parts per million to over 400 parts per million, which is 100 parts per million higher than any time in the last 800,000 years. The atmospheric concentration of CO_2 over time has been calculated by measuring the composition of air trapped in ice cores from Antarctica,[5] as shown in Figure 2-4.

Figure 2-4 Atmospheric Carbon Dioxide Levels



Source: https://climate.nasa.gov/evidence/

GHG Emission Sources

Anthropogenic processes that release GHGs include: the burning of fossil fuels for transportation, heating, and electricity generation; agricultural practices that release methane, such as livestock grazing and crop residue decomposition; and industrial processes that release smaller amounts of high-GWP gases. Deforestation and land cover conversion also contribute to global warming by reducing the Earth's capacity to remove CO_2 from the air and altering the Earth's albedo,[6] or surface reflectance, allowing for absorption of additional solar radiation. According to the U.S. Environmental Protection Agency (USEPA), gross GHG emissions nationwide have increased by 1.3 percent since 1990. While the continued shift from coal to natural gas and increased use of renewables in the power sector helps to reduce GHG emissions, continued increases in population growth and industrialization can lead to further increases in GHG emissions unless technology and practices transition to low carbon alternatives.

5 Bereiter et. al. 2008. https://www.researchgate.net/publication/5370384_High-resolution_carbon_dioxide_concentration_record_650000-800000_years_before_present

6 Albedo refers to the amount of diffuse radiation of energy out of the total, ranging from 0 (a black body that absorbs all radiation) to 1 where no energy/radiation is absorbed. Source: National Snow & Ice Data Center (NSIDC). 2020. https://nsidc.org/cryosphere/seaice/processes/albedo.html

LVMWD GHG Emission Sources

LVMWD's sources of GHG emissions include the following:

- Electricity usage to pump groundwater, conduct water quality sampling and treatment, provide water conveyance and distribution throughout the service area, and operate LVMWD/JPA facilities such as pump stations, lift stations, water reclamation plants, and water recycling
- Combustion of fuels (such as natural gas) in buildings and stationery equipment
- Combustion of fuels (such as gasoline and diesel) for transportation (fleet vehicle internal combustion of fuel and employee commutes)
- Emissions released from the processing and treatment of wastewater (e.g., combustion of digester gas, N_2O from nitrification or denitrification, and emissions in effluent discharge)
- Waste emissions including combustion of fuels in waste collection vehicles and landfill equipment as well as emissions from the decomposition of waste generated by LVMWD/JPA operations at the landfill

For a complete description of LVMWD's operations and associated GHG emissions see Chapter 4.

3. Climate Change Vulnerabilities

Climate Change Exposure

The addition of excess GHGs to the atmosphere is responsible for trapping heat near the earth's surface, increasing the average temperatures across the globe. This increase in average temperatures is the cause of climate change and affects local health, natural resources, infrastructure, emergency response, and many other aspects of society. According to the IPCC, GHGs are now higher than they have been in the past 400,000 years, raising carbon dioxide levels from 280 parts per million to 410 parts per million in the last 150 years (IPCC 2021). The dramatic increase in GHG's is attributed to human activities beginning with the industrial revolution in the 1800s, which represented a shift from an agrarian and handicraft-based economy to one dominated by industry and machine manufacturing (IPCC 2021).

To evaluate the impact of climate change on LVMWD operations and infrastructure, future conditions were modeled using the State of California's Cal-Adapt tool.[1] These models predict that LVMWD's service area and state water supplies are expected to experience a wide variety of impacts by the end of the century. According to California's Fourth Climate Change Assessment, LVMWD will be affected by projected changes, including sea level rise, changes in precipitation patterns, wildfire risk, the prevalence of extreme heat events, and ocean temperatures and chemistry.

The Cal-Adapt tool provides climate data from global-scale models that have been localized (downscaled) to 3.7-mile by 3.7-mile grids (California Energy Commission [CEC] 2021). The data in Cal-Adapt specific to LVMWD's service area is combined with information from the California Fourth Climate Change Assessment, Los Angeles Regional Report (2018) to describe protected future changes for specific types of hazards. Other reports, including the California Department of Water Resource's Climate Change Vulnerability Assessment, provide information regarding climate change projections and impacts to the State Water Project and water supplies. Projections throughout this section are presented consistent with the Governor's Office of Planning and Research (OPR) using Representative Concentration Pathway (RCP) 8.5 as a conservative approach to assessing and adapting to climate change. RCP 8.5 is a high greenhouse emissions scenario in which global emissions continue to rise through the end of the twenty-first century. Additionally, projections are forecasted to mid-century (2035-2064) and end-of-century (2070-2099) as 30-year averages and are compared to a modeled historical baseline (1961-1990).

Climate Drivers

In LVMWD's service area, the climate drivers of concern include temperature and precipitation.

Temperature

Average maximum temperatures are expected to increase in LVMWD's service area. Compared to the observed baseline (1961-1990), average maximum temperatures in Calabasas (District Headquarters)

[1] Cal-Adapt 2.0 is an online tool that presents historic and modeled projections based on 10 different global climate models. The tool was developed and is maintained by the University of California, Berkeley Geospatial Innovation Facility with funding and oversight by the CEC. This tool was used to present projection data related to minimum and maximum temperature, precipitation, extreme heat, warm nights, drought, and wildfire.

are expected to rise between 4.3 °F and 8.1 °F by the end of the century. According to "Our Climate Crisis: A Guide for SoCal Communities in the Wildland Urban Interface" prepared by the Malibu Foundation, the cities of Calabasas, Agoura Hills, and Hidden Hills, will face the highest temperature increases in the Santa Monica Mountains region. Temperature increases influence extreme heat, drought, and wildfire, as discussed further in this Chapter.

Precipitation and Drought

Precipitation in LVMWD's service area is highly variable from year to year. According to California's Fourth Climate Change Assessment, Los Angeles Region Report (2018), typically about five storms each year generate approximately 50 percent of total precipitation in the Los Angeles region. Model projections are inconsistent, however, small changes in average annual precipitation compared to the region's historic baseline are expected.[2]

Increased intensity of precipitation events is expected for the greater Los Angeles Area, including LVMWD's service area, through the end of the century. Both dry and wet extremes are expected to occur in the future. By the end of the century, the wettest day of the year is expected to increase across most of the Los Angeles region, with some locations experiencing 25-30 percent increases. Maximum 1-day precipitation is projected to increase between 0.3 and 0.4 inch by the end of the century. Extremely dry years are expected to increase in the Los Angeles region, potentially doubling or more in frequency by the end of the century. The maximum length of dry spell currently has a 158-day average in LVMWD and is projected to increase between 8 and 16 days by the end of the century.[3]

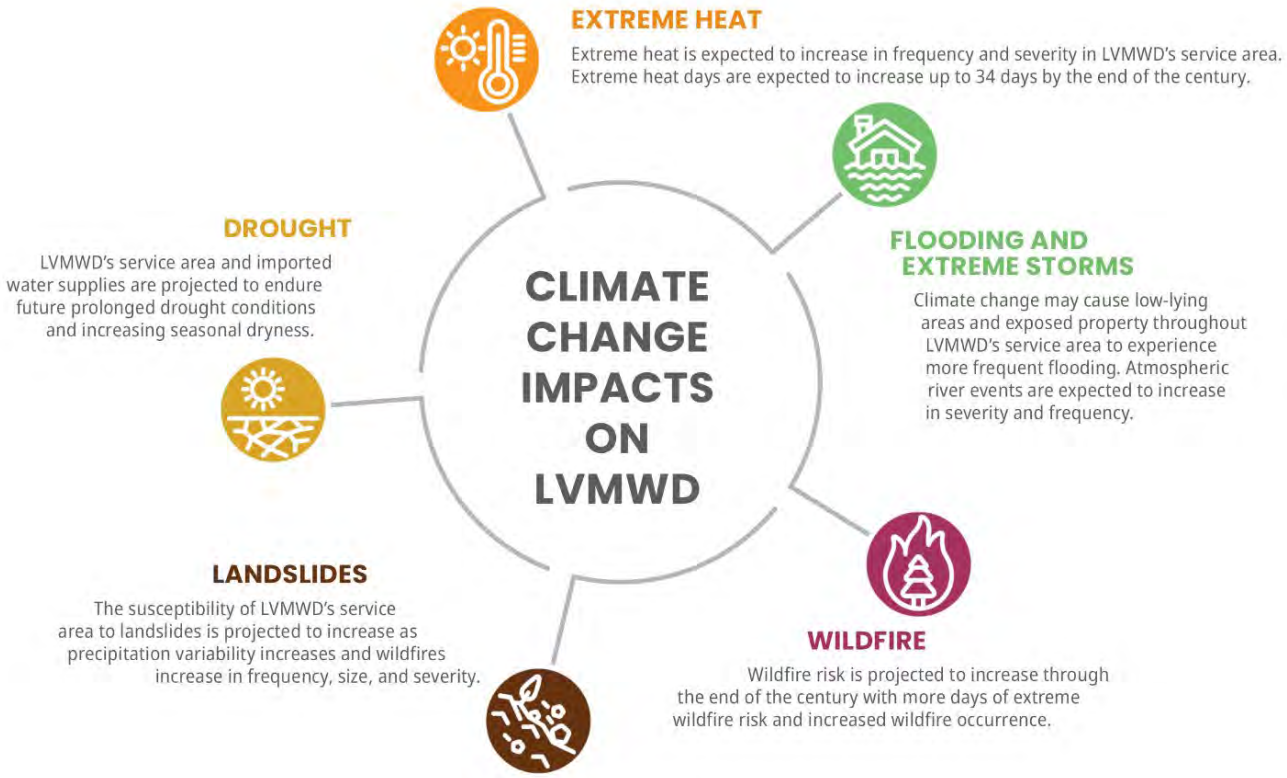
Regional Climate Hazards

LVWMD's infrastructure, facilities and water supplies are exposed to climate hazards including drought, wildfire, extreme heat, extreme storms/precipitation events, floods, and landslides. A summary of climate change impacts on LVMWD is shown in Figure 3-1.

[2] Hall et al. 2018. Los Angeles Region Report: California's Fourth Climate Change Assessment. https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCCA4-2018-007%20LosAngeles_ADA.pdf. Accessed July 2023

[3] California Energy Commission (CEC). 2023. Cal-Adapt. https://cal-adapt.org/tools/local-climate-change-snapshot. Accessed July 2023

Figure 3-1 Climate Change Impacts on LVMWD



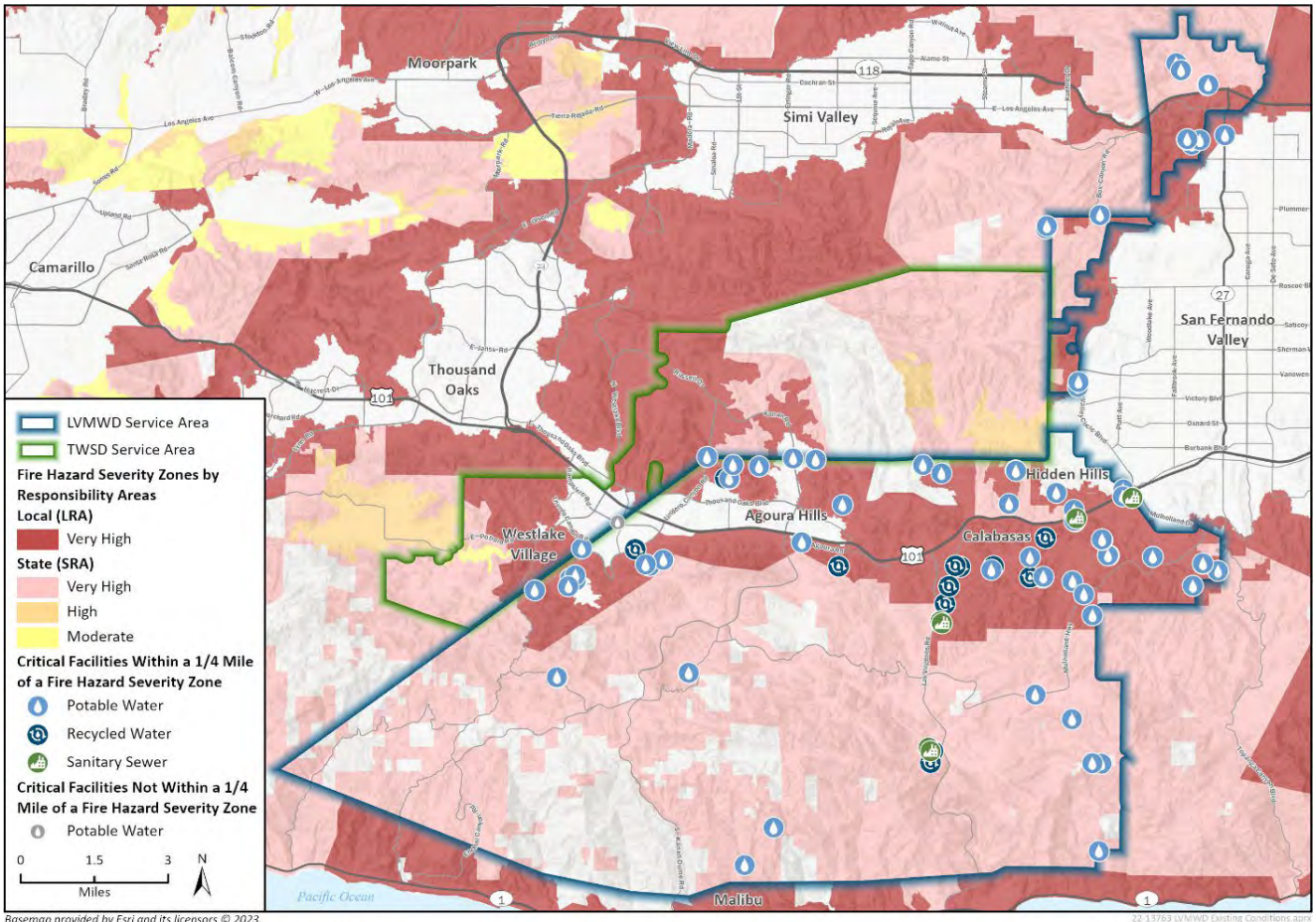
Wildfire

Wildfires in California have occurred with increased frequency and intensity over the past two decades. There are many areas in LVMWD's service area designated by CAL FIRE as High and Very High Fire Hazard Severity Zones, with the greatest risk in the Santa Monica Mountains and Simi Hills. Additionally, many of LVMWD's critical facilities in its potable, recycled, and sanitary water systems, are in Fire Hazard Severity Zones, as seen in Figure 3-2. Critical potable water, recycled water, and sanitary sewer facilities located within a ¼ mile of a fire hazard severity zone are highlighted in the figure. LVMWD's service areas are projected to experience increasing wildfire risk through the end of the century due to a variety of factors including an increase in temperatures and prevalence of drought conditions. The decadal probability of wildfire is projected to increase from the historical baseline of 10 percent to 30 percent by the end of the century.[4]

On November 8, 2018, the Woolsey Fire broke out in Ventura County and spread into LVMWD's service area, due to large amount of flammable vegetation and the influence of Santa Ana winds. On November 11, LVMWD's Board declared a state of emergency for the service area due to the significant impacts of the fire, authorizing response and recovery efforts and actions. LVMWD critical facilities and services were damaged and disrupted, including the Calabasas Headquarters. By November 9, LVMWD lost power to nearly all of its critical facilities and backup generators were utilized to keep pump stations and other equipment operational. The Woolsey Fire footprint and location of LVMWD critical facilities are shown in Figure 3-3.

[4] California Energy Commission (CEC). 2023. Cal-Adapt. https://cal-adapt.org/tools/local-climate-change-snapshot. Accessed July 2023

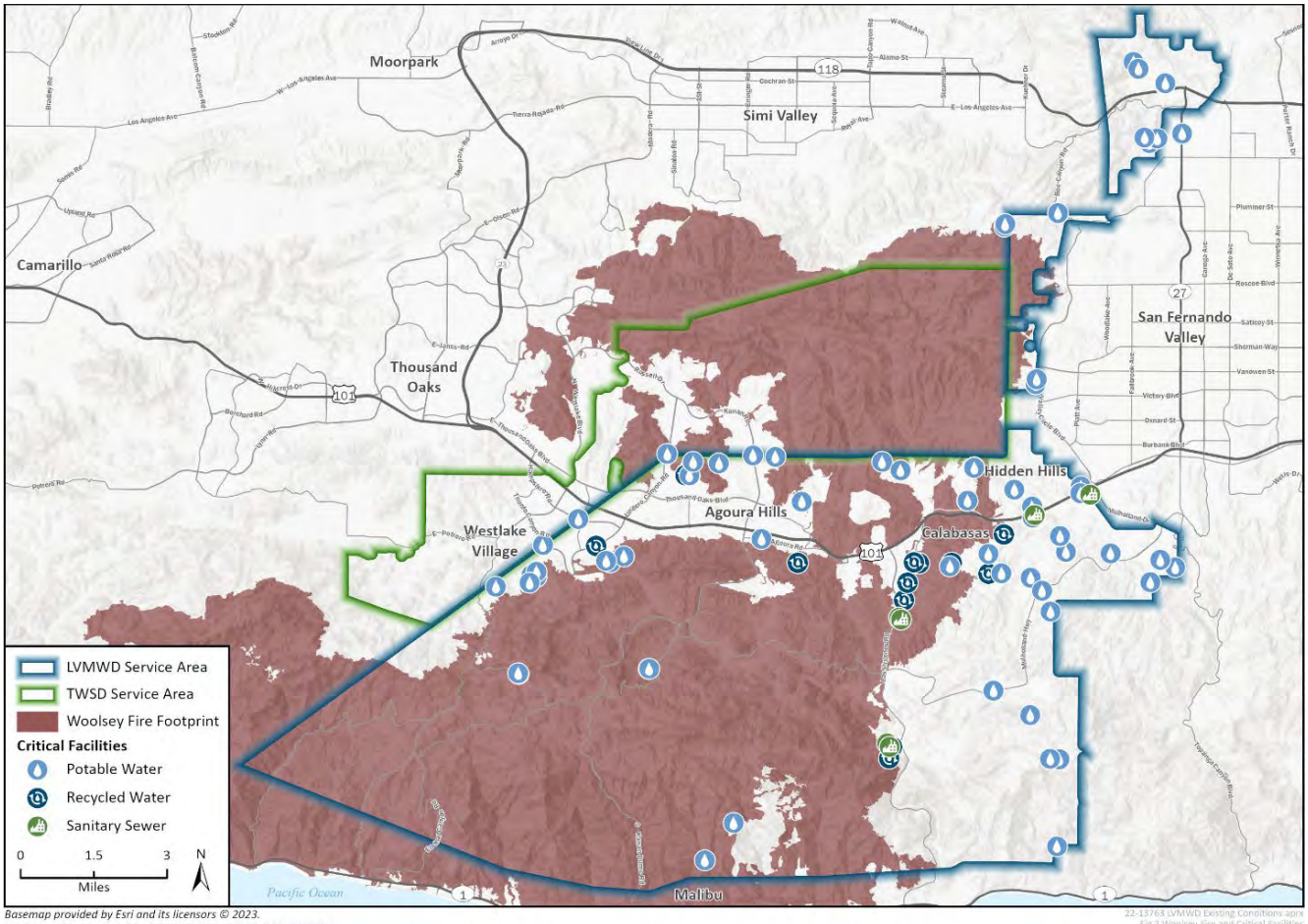
Figure 3-2 Fire Hazard Severity Zones and Critical Facilities



Basemap provided by Esri and its licensors © 2023.
Additional data provided by LVMWD, 2023; CAL FIRE, SRA 2007, LRA 2010 & 2012.

22 13763 LVMWD Existing Conditions.aprx
Fig 1 Fire Hazard Severity Zones and Critical Facilities

Figure 3-3 Woolsey Fire and Critical Facilities

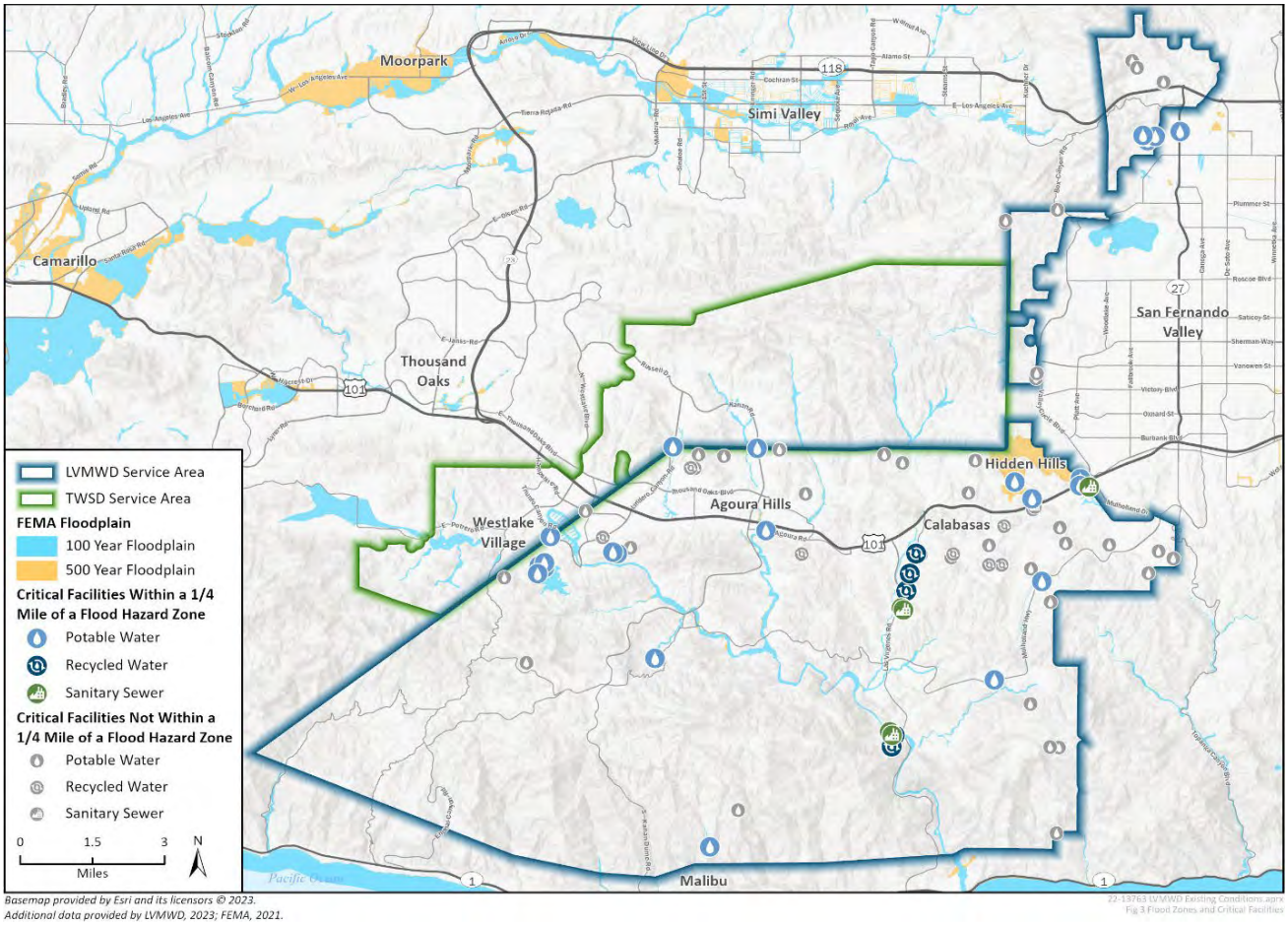


Flooding and Extreme Storms

Low-lying areas in LVMWD's service area are expected to experience more frequent flooding as a result of climate change. Riverine flooding is expected to increase as precipitation extremes increase. Waterways including the Malibu Creek are particularly susceptible to riverine flooding. Extreme precipitation events often produce large and high velocity flows, which may overwhelm stormwater systems, causing localized flooding. Climate models project that the frequency of atmospheric river/large storm events may increase in the future. Additionally, the peak season of atmospheric rivers is projected to lengthen, which may extend the flood-hazard season in Southern California.[5] LVMWD's service area has both 100-year and 500-year FEMA floodplains, with several critical facilities located in those floodplains, as seen in Figure 3-4. Critical potable water, recycled water, and sanitary sewer facilities located within a ¼ mile of a flood hazard zone are highlighted in the figure.

[5] Hall et al. 2018. Los Angeles Region Report: California's Fourth Climate Change Assessment. https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCCA4-2018-007%20LosAngeles_ADA.pdf. Accessed July 2023

Figure 3-4 FEMA Flood Zones and Critical Facilities

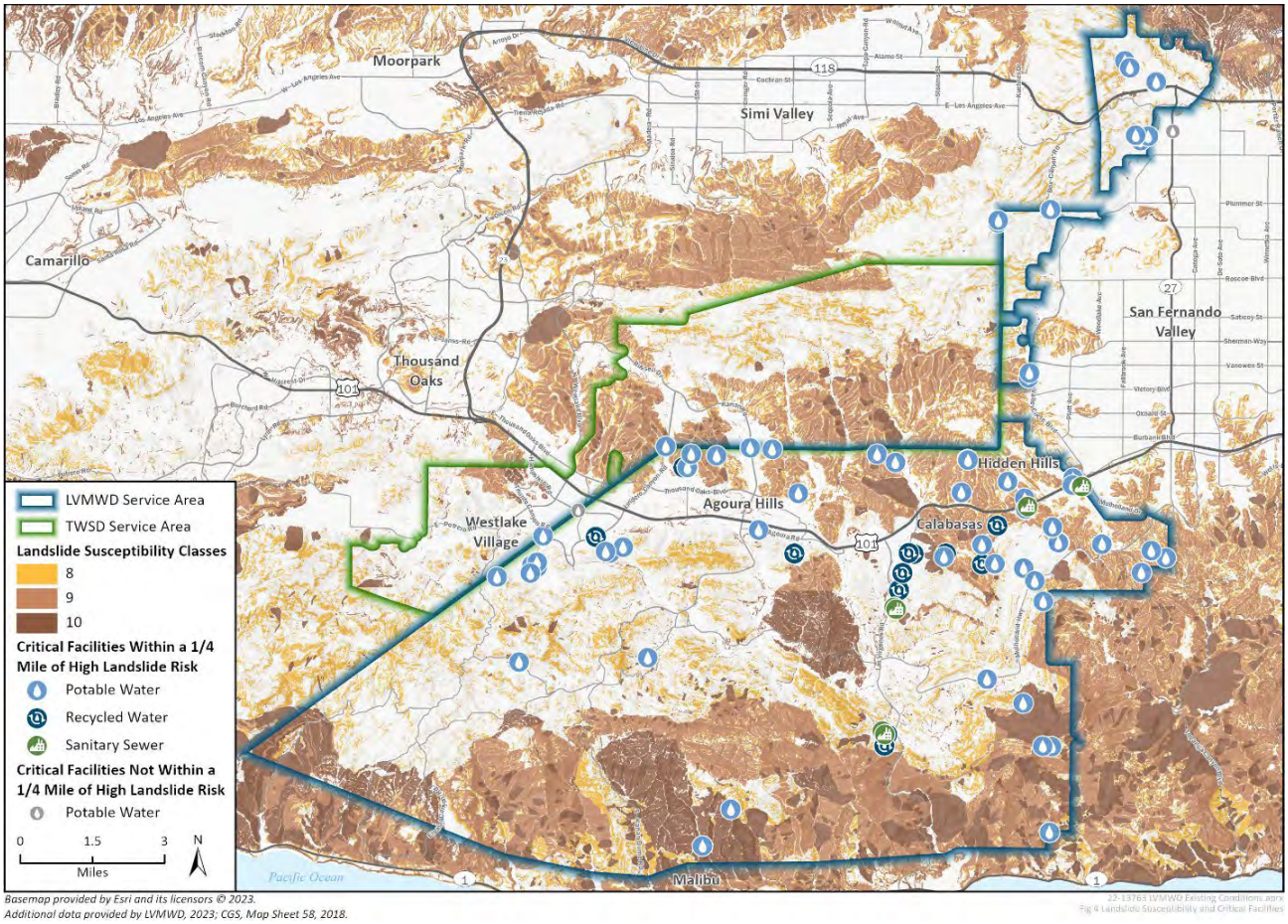


Landslides

Increased frequency and intensity of extreme precipitation events and wildfires may contribute to increased landslide susceptibility in LVMWD's service area. Landslide susceptibility is typically highest in areas with unstable soils, weak rocks, and steep slopes. Landslide susceptibility in LVMWD's service area is based on a range from 1 to 10, with 10 being the highest susceptibility. As seen in Figure 3-5, susceptibility levels of 8 to 10, are common throughout LVMWD's service area, particularly in the Santa Monica Mountains and Simi Hills. Critical potable water, recycled water, and sanitary sewer facilities located within a ¼ mile of a high landslide susceptibility area are highlighted in the figure. Areas impacted by recent fires, including the 2018 Woolsey Fire, are especially prone to debris flow. Debris flow events are particularly dangerous because they often have little warning during severe storm events and are fast moving. Post-wildfire debris flows are likely to occur in burn scar for between 2-5 years after a wildfire, during significant rainfall events.[6]

[6] U.S. Geological Survey (USGS). 2018. Emergency Assessment of Post-Fire Debris Flow Hazards. https://www.usgs.gov/programs/landslide-hazards/science/emergency-assessment-post-fire-debris-flow-hazards. Accessed July 2023

Figure 3-5 Landslide Susceptibility Areas and Critical Facilities



Basemap provided by Esri and its licensors © 2023.
Additional data provided by LVMWD, 2023; CGS, Map Sheet 58, 2018.

Extreme Heat

The number of extreme heat days per year is expected to increase in LVMWD's service area. At LVMWD Headquarters, an extreme heat day is when the maximum temperature exceeds 97.4 °F. Historically, the service area experiences three extreme heat days per year on average. By the end of the century, extreme heat days are expected to increase between 16 and 34 days.[7]

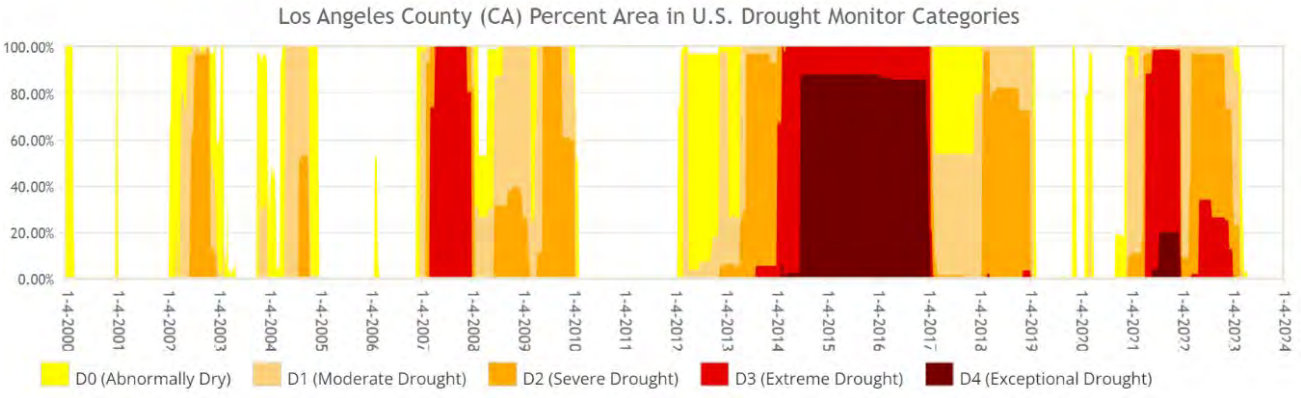
Droughts

Climate change will increase the likelihood that low-precipitation years will coincide with above-average temperature years. Warming temperatures increase seasonal dryness and the likelihood of drought due to decreased supply of moisture and increased atmospheric demand for moisture as evaporation from bare soils and evapotranspiration from plants increases. Extremely dry years are projected to increase over Southern California, potentially doubling or more in frequency by the late-twenty-first century.[8] The U.S. Drought Monitor characterizes areas within LVMWD as Abnormally Dry (D0) and Moderate

[7] California Energy Commission (CEC). 2023. Cal-Adapt. https://cal-adapt.org/tools/local-climate-change-snapshot. Accessed July 2023
[8] Hall et al. 2018. Los Angeles Region Report: California's Fourth Climate Change Assessment. https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCCA4-2018-007%20LosAngeles_ADA.pdf. Accessed July 2023

Drought (D1), as of May 2023. Drought intensity ranges from None to Exceptional Drought (D4). [9] Shown below in Figure 3-6 is the drought status of Los Angeles County for the past 23 years. The county experienced Moderate to exceptional drought periods in 2002, 2004-2005, 2007-2010, 2011-2019, and 2021-2023. Drought exposure will have a more prominent impact on LVMWD through the State Water Project (SWP), as described below, than on local water sources, as a majority of LVMWD's water supply is imported.

Figure 3-6 Landslide Susceptibility Areas and Critical Facilities



Source: U.S. Drought Monitor Los Angeles County CA. 2023. https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?fips_06037

State Water Project and California Department of Water Resources Climate Hazards

LVMWD primarily relies on potable water supplies provided by The Metropolitan Water District of Southern California (MWD). MWD receives water allocations from the SWP, a state water management project supervised by the California Department of Water Resources (DWR). As much as 10 percent of California's existing water supply could diminish by 2040 due to hotter and drier weather. Through the twenty-first century, there is expected to be increased evaporation, less snowfall, and increased consumption of water by soil, vegetation, and the atmosphere itself.[10] Over the past 40 years, there has been a clear downward trend in SWP (Table A) allocations (See Figure 3-7). In this context, imported water supply from the SWP is projected to be significantly impacted by climate change through the end of century. Several key reasons for SWP impacts include higher temperatures and shorter winters leading to reduction in Sierra Nevada and Colorado River Basin snowpack volume and increased evapotranspiration of watersheds from heightened temperatures. Smaller snowpack results in decreased flows in the Colorado River and greatly impacts SWP sourced water, which is designed to capture and store winter and spring runoff to prevent downstream flooding and deliver stored water during summer and fall months when it is needed. However, a diminished snowpack would result in larger volumes of runoff entering reservoirs during the winter and early spring and less runoff arriving in late spring and early summer, when it is needed. A reduced snowpack from increased temperatures also

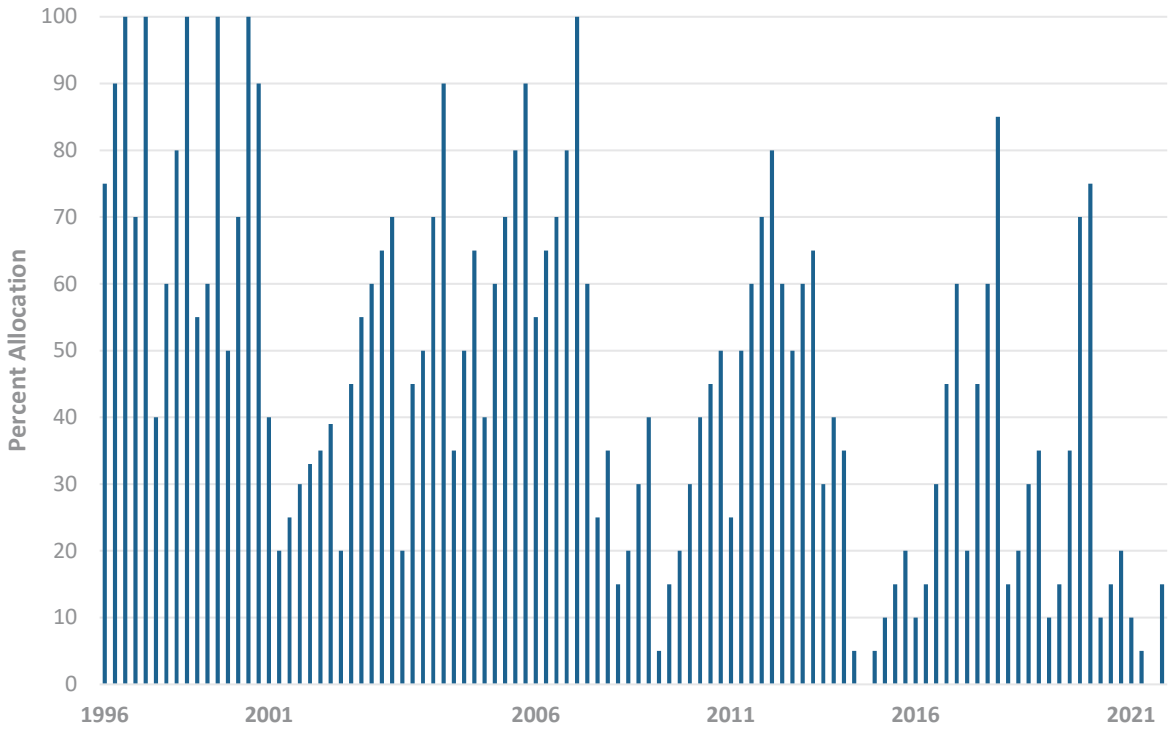
[9] National Drought Mitigation Center at the University of Nebraska-Lincoln et al. 2023. U.S. Drought Monitor. https://droughtmonitor.unl.edu/. Accessed July 2023

[10] California Natural Resources Agency et al. 2022. California's Water Supply Strategy: Adapting to a Hotter, Drier Future. https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Water-Resilience/CA-Water-Supply-Strategy.pdf. Accessed July 2023

creates less retainable water and more surface water flowing to the ocean. This would lead to higher downstream flow during flood events and reduced late summer storage levels. Climate change is expected to bring about longer and more frequent periods of drought for the entire region. This prolonged drought occurrence may further impact LVMWD as SWP allocations are likely to be reduced during such periods. These factors collectively pose significant challenges for water management and availability in the region.

California Department of Water Resources (DWR) analysis projects that there is a 22 percent probability that long-term average annual SWP deliveries will fall to approximately 50 percent of maximum allocations.[11] Figure 3-6 details SWP historic percentage allocations from 1996 to 2021.

Figure 3-7 State Water Project Table A Allocations



As DWR manages and oversees the SWP, LVMWD is reliant on its infrastructure and operations. DWR infrastructure are also exposed to various climate hazards that may have downstream impacts on LVMWD. With anticipated climate hazards, DWR faces an elevated exposure to increased short-term extreme hydrologic events. Several critical DWR facilities are particularly susceptible to flood hazards, potentially affecting SWP deliveries and overall operational continuity.

Furthermore, certain assets owned and managed by DWR are situated in wildfire hazard areas, making them vulnerable to damage or disruption. Additionally, all DWR locations are projected to experience more extreme heat days and higher average maximum temperatures due to climate change. Moreover, sea level rise is projected to increase the Sacramento-San Joaquin Delta's salinity, requiring extra Delta

[11] California Department of Water Resources (DWR). 2019. Climate Action Plan, Phase 3: Climate Change Vulnerability Assessment. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan/Files/CAP-III-Vulnerability-Assessment.pdf. Accessed July 2023

outflow to dilute the increasingly brackish Delta water to meet environmental standards. The extra Delta outflow comes at a cost of reducing Delta exports, meaning less water is available for distribution through the California Aqueduct to water suppliers and users located south of the Delta, including LVMWD. This scenario poses a challenge for water availability and management in the region, impacting various communities and water-related operations.[12]

Climate Change Impacts

Climate Change Impacts in LVMWD Service Area

LVMWD faces significant risks associated with climate change impacts from the climate hazards described above. LVMWD's vulnerability increases when critical facilities, assets, and infrastructure are not designed, operated and/or maintained to function effectively under more extreme weather conditions or can be damaged by more extreme weather conditions. LVMWD's critical facilities that are sensitive to climate hazards include pump stations, treatment facilities, LVMWD Headquarters, and other buildings and equipment associated with the potable, recycled, and sanitary water systems.

LVMWD staff, with support from a consultant team, hosted a Climate Action and Adaptation Plan Strategy Workshop in March 2023 to assess climate risks to LVMWD's facilities, operations, and resources. As part of the workshop, a climate risk matrix was developed to assign a numerical risk score for each water sub-system based on each climate exposure. The matrix ranked each water sub-system from 1 to 9, with 1 indicating a system less impacted by a certain climate risk and 9 indicating a system most impacted by a certain climate risk. LVMWD's systems and sub-systems included in the matrix are seen below:

- Potable Water
    - MWD Imported Water
    - Potable Distribution System
    - Las Virgenes Reservoir
    - Westlake Filtration Plant
- Wastewater
    - Sewer Collection System
    - Tapia Wastewater Reclamation Plant
    - Biosolids Composting (Rancho Las Virgenes Composting Facility)
- Recycled/Pure Water
    - Recycled Water Distribution
    - Pure Water
- Headquarters
    - Central Operations and Administration

[12] California Department of Water Resources. 2019. Climate Action Plan, Phase 3: Climate Change Vulnerability Assessment. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan/Files/CAP-III-Vulnerability-Assessment.pdf. Accessed July 2023

Wildfire

Table 3-1 Wildfire – Climate Risk Matrix Scoring

System	Sub-System	Climate Risk Score
Potable Water	MWD Imported Water	3
	Potable Water Distribution System	8
	Las Virgenes Reservoir	8
	Westlake Filtration Plan	9
Wastewater	Sewer Collection System	5
	Tapia Water Reclamation Plan	7
	Biosolids Composting	8
Recycled/Pure Water	Recycled Water Distribution	6
	Pure Water	7
Headquarters	Operations, Administration & Finance	8

LVMWD staff ranked the potable water distribution system, Las Virgenes Reservoir, Westlake Filtration Plant, Rancho Las Virgenes Composting Facility, and District Headquarters at high risk to wildfire impacts. All of these facilities are located in CAL FIRE Moderate, High, or Very High Fire Hazard Severity Zones and are susceptible to impacts from wildfire. During the Woolsey Fire, the District's Westlake Filtration Plant sustained damage to both the building itself and surrounding property. While the Plant still faces significant risk to future wildfire, the area around the building has been rehabilitated and now features a restored, water wise and more fire-resistant landscape.[13]

Wildfire can create risk of injury or death, damage to properties, critical facilities, and infrastructure, and need for evacuation. It can also trigger cascading impacts of worsened air quality, power outages and other service disruptions. During a wildfire event, LVMWD's water pipes, both underground and above-ground, may burn due to the heat from a wildfire. This may lead to contaminated drinking water which may threaten local public health and disrupt the District's service continuity. Wildfire may threaten the safety of LVMWD employees and customers and impede access to assets in need of repair or maintenance. Water supply availability may be disturbed if LVMWD supplies water for fighting fires. Additionally, sedimentation rates may increase in the Las Virgenes Reservoir if there is a large and/or frequent fire in the area surrounding the reservoir. Recent research conducted by the United States Geological Survey, shows that an increase in magnitude and frequency of wildfires is expected to double the rates of sedimentation in one-third of the West's large watersheds, reducing reservoir storage and affecting water supplies. Increased sedimentation can result in lost reservoir storage and decrease water quality. LVMWD may face additional challenges treating water from the reservoir if it is contaminated with ash, sediments, and contaminates created by active burning.[14]

Utility providers may temporarily shut off power to LVMWD service areas when wildfire risk is particularly high; this is referred to as a Public Safety Power Shutoff (PSPS). If a PSPS event lasts several days and involves the entire grid serving the District's water systems, service continuity may be

[13] LVMWD. 2020. Westlake Filtration Plant. https://www.lvmwd.com/our-services/drinking-water/facilities-infrastructure/westlake-filtration-plan. Accessed July 2023

[14] Bland. 2017. The West's Wildfires Are Taking a Toll on Reservoirs. https://static1.squarespace.com/static/55dc9bade4b05820bf02d414/t/5a149cfe53450a59dc531297/1511300351736/Watershed1%28NewsDeeply%29.pdf. Accessed July 2023

disrupted, and LVMWD may not be able to provide all its customers with water. Wildfire can also lead to smoke and associated air toxins which can lead to worsening air quality, creating or exacerbating respiratory issues for sensitive LVMWD customers and employees and impact indoor areas without adequate air filtration systems.

Extreme Heat

Table 3-2 Extreme Heat – Climate Risk Matrix Scoring

System	Sub-System	Climate Risk Score
Potable Water	MWD Imported Water	7
	Potable Water Distribution System	4
	Las Virgenes Reservoir	7
	Westlake Filtration Plan	7
Wastewater	Sewer Collection System	3
	Tapia Water Reclamation Plan	4
	Biosolids Composting	5
Recycled/Pure Water	Recycled Water Distribution	7
	Pure Water	5
Headquarters	Operations, Administration & Finance	4

Various infrastructure, equipment, and resources can be damaged, strained, or diminished during extreme heat events. LVMWD staff ranked MWD Imported Water, the Las Virgenes Reservoir, Westlake Filtration Plant, and Recycled Water Distribution at high risk to extreme heat. As average maximum temperatures and extreme heat days, both in LVMWD's service area and throughout California, are projected to increase through the century, evaporation of imported water and water in the Las Virgenes Reservoir is expected to increase. This may lead to or exacerbate future water scarcity issues.[15] Extreme heat and increased average maximum temperatures can lead to harmful algal blooms which can contaminate water supplies and require increased water treatment capacities.[16] Additionally, certain types of algal blooms produce dangerous toxins that can sicken people and wildlife. The overgrowth of algae consumes oxygen and blocks sunlight from underwater plants, potentially leading to the die off of aquatic life.[17]

Additionally, the ambient operating temperature within which the LVMWD's equipment operates is a significant factor in the equipment's lifespan. High ambient operating temperatures may lead to a reduction of the lifespan for motors and related equipment within LVMWD's systems. LVMWD may face increased costs associated with the additional cooling required for certain LVMWD facilities and assets.[18] LVMWD has historically faced pump operating issues due to extreme heat impacts. During an extreme heat event, electricity utilities may turn off power in a PSPS in order to mitigate wildfire risk. If a PSPS event lasts several days and involves the entire grid serving LVMWD's systems, service continuity

[15] Friedrich et al. 2018. Reservoir Evaporation in the Western Unites States: Current Science, Challenges, and Future Needs. https://journals.ametsoc.org/view/journals/bams/99/1/bams-d-15-00224.1.xml. Accessed July 2023
[16] EPA. 2013. Impacts of Climate Change on the Occurrence of Harmful Algal Blooms. https://www.epa.gov/sites/default/files/documents/climatehabs.pdf Accessed July 2023
[17] EPA. The Effects: Dead Zones and Harmful Algal Blooms. https://www.epa.gov/nutrientpollution/effects-dead-zones-and-harmful-algal-blooms#:~:text=Dead%20zones%20are%20areas%20of,excess%20nutrients%20from%20upstream%20sources.. Accessed July 2023
[18] Water Utility Climate Alliance and Association of Metropolitan Water Agencies. 2020. It's Hot and Getting Hotter: Implications of Extreme Heat on Water Utility Staff and Infrastructure, and Ideas for Adapting. https://www.amwa.net/system/files/linked-files/Heat%20Impacts%20copy.pdf Accessed July 2023

may be disrupted, and LVMWD may not be able to provide services to all of its customers. Extreme heat events pose significant health risk to LVMWD employees and customers who may suffer from heat stroke, heat exhaustion, or dehydration. Extreme heat may also lead to vegetation die-off, which can exacerbate wildfire risk in areas surrounding the LVMWD's facilities.

Drought

Table 3-3 Drought – Climate Risk Matrix Scoring

System	Sub-System	Climate Risk Score
Potable Water	MWD Imported Water	9
	Potable Water Distribution System	3
	Las Virgenes Reservoir	9
	Westlake Filtration Plan	6
Wastewater	Sewer Collection System	4
	Tapia Water Reclamation Plan	8
	Biosolids Composting	6
Recycled/Pure Water	Recycled Water Distribution	8
	Pure Water	9
Headquarters	Operations, Administration & Finance	9

LVMWD staff ranked MWD Imported Water, the Las Virgenes Reservoir, Pure Water, and District Headquarters at high risk to drought impacts. Warming temperatures combined with more frequent dry years will exacerbate drought impacts. Drought can lead to vegetation stress and die-off, which may exacerbate wildfire risk in LVMWD's service area. Extended drought conditions may lead to a loss of District revenue and increased water rates which may disproportionally impact under-resourced populations. Drought can also impact the reliability of local water resources. While LVWMD's primary water supplies are imported from MWD, it also sources some groundwater supplies from the Russell Valley Basin, which is used to supplement recycled water system.[19] During periods of drought, local groundwater sources may run dry if there is not enough consistent reliable recharge from precipitation. Drought conditions may also have impacts to water stored in Las Virgenes Reservoir, which stores treated potable water from MWD. Specific drought impacts to imported water supplies is discussed below in the Climate Change Impacts to LVMWD Potable Water Supplies section.

Flood and Extreme Precipitation

Table 3-4 Flood and Extreme Precipitation – Climate Risk Matrix Scoring

System	Sub-System	Climate Risk Score
Potable Water	MWD Imported Water	5
	Potable Water Distribution System	5
	Las Virgenes Reservoir	3
	Westlake Filtration Plan	3
	Sewer Collection System	7

[19] LVMWD. 2020. Urban Water Management Plan. https://www.lvmwd.com/home/showpublisheddocument/13459/637616788962730000 Accessed July 2023

Wastewater	Tapia Water Reclamation Plan	5
	Biosolids Composting	3
Recycled/Pure Water	Recycled Water Distribution	3
	Pure Water	2
Headquarters	Operations, Administration & Finance	5

LVMWD staff ranked the sewer collection system, MWD Imported Water, the potable water distribution system, Tapia Wastewater Reclamation Plan, and District Headquarters at high risk to flooding and extreme precipitation impacts. During extreme precipitation events, power conveyance and distribution infrastructure can be damaged by wind and heavy rain which may cause service disruptions. LVMWD electrical equipment, operational, and administrative assets can be vulnerable if exposed to water damage. During heavy precipitation events, localized flooding may occur if storm-drain infrastructure or Malibu Creek in LVMWD's service area becomes overwhelmed. Localized flooding may damage or inundate properties, structures, infrastructure, and other assets. It may also close streets and inhibit mobility of certain locations. Heavy rainfall may increase pollutant runoff and sedimentation into Las Virgenes Reservoir and other potable water sources. Contaminated runoff and sedimentation may require extra treatment capacities which may increase costs to LVMWD.[20] Severe flooding may cause erosion issues near sewer lines and may lead to increased risks of flooding impacts to the sewer collection system. As of 2014, only two of the four pumps in the sewer collection system are equipped with variable pumping capacity (variable frequency drives) and have limited abilities for handling peak storm flows. The Tapia Wastewater Reclamation Facility is particularly vulnerable to damage from flooding and increased precipitation may lead to greater flows into Malibu Creek which may increase turbidity, contamination, and erosion. Extreme precipitation events may also oversaturate spray fields, overwhelming them and potentially impacting operations of water disposal.[21]

Landslide

Table 3-5 Landslide – Climate Risk Matrix Scoring

System	Sub-System	Climate Risk Score
Potable Water	MWD Imported Water	2
	Potable Water Distribution System	6
	Las Virgenes Reservoir	4
	Westlake Filtration Plan	3
Wastewater	Sewer Collection System	6
	Tapia Water Reclamation Plan	2
	Biosolids Composting	2
Recycled/Pure Water	Recycled Water Distribution	2
	Pure Water	6
Headquarters	Operations, Administration & Finance	3

LVMWD staff ranked the potable water distribution system, sewer collection system, and Pure Water at high risk to landslides. Landslides may damage critical facilities, structures, and infrastructure. This can

[20] EPA. 2023. Climate Adaptation and Source Water Impacts. https://www.epa.gov/arc-x/climate-adaptation-and-source-water-impacts
[21] LVMWD and Triunfo Sanitation District. 2014. Sanitation Master Plan. https://www.lvmwd.com/home/showpublisheddocument/4321/635392121338370000 Accessed July 2023

cause service disruptions, impact community members, and isolate certain areas if roadways are compromised. Landslides can directly damage buildings and facilities by disrupting structural foundations either by deforming the ground on which an asset is located or by physically impacting an asset. 22 Facilities and infrastructure in and adjacent to the Woolsey Fire footprint are particularly susceptible to debris flows. Debris flows and landslides can negatively impact the sewage conveyance system and Tapia Wastewater Reclamation Facility by sending more sediment and debris into the system than the plant can take out. Landslides may also increase sedimentation in potable water sources and the Virgenes Reservoir, which may lead to lost reservoir storage and water quality impacts.

Climate Change Impacts to LVMWD Potable Water Supply

Long-term persistent hydrologic changes in California, including increases in the frequency, duration, and severity of dry periods and earlier Sierra Nevada snowmelt-based runoff, may significantly impact the operations of the SWP. Hydrologic changes can affect water quantity and quality, and therefore the ecosystems supported by the Sierra Nevada watersheds SWP relies on. Recent DWR analysis predicts that SWP delivery performance is at risk of climate change and will most likely fall short in the future. As outlined above in the SWP Climate Hazards section, there is a 22 percent probability that long-term average annual SWP deliveries will fall to approximately 50 percent maximum allocations. As imported water from the SWP is LVMWD's primary water source and supplies virtually all potable water demands, decreases in future allocations may lead to water shortages and loss of revenue to LVMWD. LVMWD is moving forward with the construction and implementation of the Pure Water Project Las Virgenes-Triunfo, which will take recycled water from the Tapia Water Reclamation Facility and treat it to provide up to 30 percent of LVMWD's future potable water needs, locally. As LVMWD's future imported water supply becomes more volatile and unpredictable in the , the Pure Water Project will mitigate imported water reliability concerns by providing a long-term local potable water supply.[23] Also, wildfire, flooding, and landslides in the Sierra Nevada's or in other areas adjacent to SWP infrastructure and supplies, may lead to water quality impacts (i.e. from ash, contaminants, or sediments), which may have downstream impacts to LVWMD's imported water supplies. Severe flooding, extreme storms, and wildfire events may physically damage infrastructure, potentially disrupting SWP services statewide, including those to LVMWD.[24]

[22] USGS. 2008. The Landslide Handbook – A Guide to Understanding Landslides. https://pubs.usgs.gov/circ/1325/pdf/C1325_508.pdf. Accessed July 2023

[23] LVMWD. 2022. Pure Water Project Achieves Major Milestone. https://www.lvmwd.com/Home/Components/News/News/5988/22. Accessed July 2023

[24] California Department of Water Resources (DWR). 2019. Climate Action Plan, Phase 3: Climate Change Vulnerability Assessment. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan/Files/CAP-III-Vulnerability-Assessment.pdf. Accessed July 2023

4.0 GHG Emissions Inventory and Forecast

LVMWD Operational Boundary and GHG Emissions Sources

As part of the LVMWD CAAP development process, a multi-year inventory of operational GHG emissions was prepared for 2000, 2012 and 2021. The inventory provides a measurement of GHG emissions associated with the operation and maintenance of LVMWD's infrastructure, including its buildings, facilities, fleet, equipment, as well as emissions from wastewater, waste streams, and employee commute.[1]

Conducting a GHG inventory is an important component of the CAAP development process, as it allows LVMWD and its stakeholders to understand which activities contribute substantially to their GHG emissions footprint. The inventory also provides the groundwork for forecasting future GHG emissions and developing GHG emissions reduction targets.

LVMWD's and the JPA's GHG emissions inventory is consistent with standard reporting protocols from the World Resources Institute (WRI), World Business Council for Sustainable Development (WBCSD), and the International Council for Local Environmental Initiatives (ICLEI).[2,3] The WBCSD and WRI's *Corporate Standard GHG Protocol* requires that an inventory quantify emissions from all GHG-generating activities that fall under some level of the entity's operational control.[4] GHG-generating activities are categorized into three "scopes" which separate GHG emissions under an organization's operational control into direct and indirect GHG emissions.

- **Scope 1** consists of all direct GHG emissions that occur from sources that are controlled by the organization. For LVMWD, these sources include natural gas consumption, vehicle fleet and equipment usage, and wastewater processing.
- **Scope 2** consists of indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heat, or cooling. For LVMWD, these emissions sources include the consumption of purchased of electricity.
- **Scope 3** consists of all other indirect GHG emissions not covered under Scope 2, such as emissions resulting from the extraction and production of purchased materials and fuels, transport-related

[1] LVMWD acts as Administering Agent for the JPA, a long-term partnership between LVMWD and the Triunfo Water and Sanitation District (TWSD). The JPA co-owns, and LVMWD operates and maintains, several shared wastewater facilities, including the Tapia Wastewater Reclamation Facility, a backbone reclamation water main, the Rancho Las Virgenes Composting Facility, spray fields for seasonal disposal of excess recycled water, and a 5-megawatt solar farm. GHG emissions associated with the operation and maintenance of TWSD's infrastructure are not measured as part of this inventory.
[2] WRI and WBCSD. The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (GHG Protocol). Revised Edition. Accessed at https://ghgprotocol.org/corporate-standard.
[3] ICLEI - Local Governments for Sustainability. Local Government Operations Protocol (May 2010). Version 1.1. Accessed at https://s3.amazonaws.com/icleiusaresources/lgo_protocol_v1_1_2010-05-03.pdf.
[4] An organization has operational control over an operation when they have the full authority to introduce and implement its operating policies at the operation. Operational control can be established by wholly owning an operation or having full authority to introduce and implement GHG or non-GHG related policies.

activities in vehicles not owned or controlled by the reporting entity, outsourced activities, and waste disposal. For LVMWD, these emissions sources include natural gas leakage,[5] transmission and distribution losses,[6] employee commute, and solid waste disposal.[7]

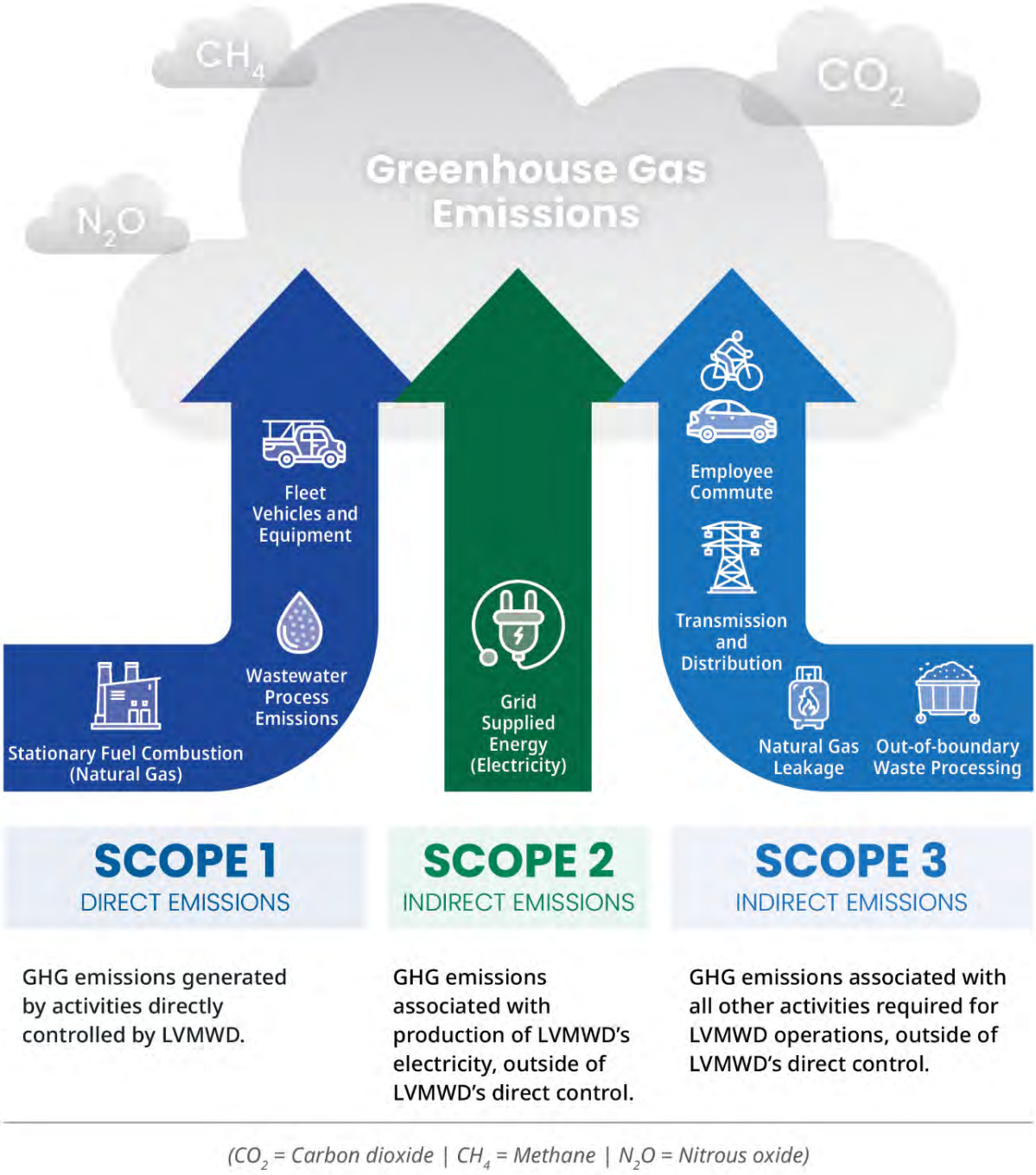
GHG-generating activities that were included in the inventory are categorized by scope as shown in Figure 4-1. These activities include natural gas combustion, wastewater process emissions, vehicle fleet and equipment usage, electricity usage, out-of-boundary waste processing, electricity transmission and distribution, natural gas leakage, and employee commute. Activities include both LVMWD-only and JPA facilities and operations.

[5] Natural gas consumption is associated with some amount of leakage as a result of moving natural gas from the location where it was generated to the facility where it is used. These are GHG emissions that occur upstream and outside of LVMWD's operational control.

[6] Electricity usage is associated with some amount of transmission and distribution losses as a result of moving electricity from the location where it was generated to the facility where it is used. These are GHG emissions that occur upstream and outside of LVMWD's operational control.

[7] GHG emissions associated with solid waste disposal include those GHG emissions associated with, fuel combustion for landfill equipment, and waste decomposition emissions once landfilled.

Figure 4-1 LVMWD's GHG Emissions by Scope



Conducting the multi-year inventory for LVMWD operations consisted of collecting summary data on each GHG-generating activity shown in Figure 4-1 for each year (2000, 2012, 2021), then converting the activity data to GHG emissions using GHG emissions factors such as those from the U.S. Environmental Protection Agency (EPA), ICLEI, and local utilities (e.g., Southern California Edison).

Water districts can produce fluctuating GHG emissions year to year depending on the source of water delivered and the extent of water deliveries and wastewater treatment services provided, as well as environmental conditions. To address this variability, LVMWD and the JPA elected to conduct a multi-year inventory over two decades, rather than a single-year inventory. This multi-year inventory captures some of variability and provides an understanding of LVMWD's and the JPA's GHG emissions over a broader time period. Developing historic and current GHG inventories also allows LVMWD and the JPA to memorialize all the projects it has completed over the last 10 years that have reduced GHG emissions but have not been individually tracked. The following sections detail the progress LVMWD and the JPA have made on reducing GHG emissions through projects including energy efficiency improvements and solar panel installations.

The 2000 GHG inventory reflects conditions before recent GHG-reduction projects were implemented and serves as a baseline. The 2012 GHG inventory reflects conditions during the implementation of GHG-reduction projects. The 2021 GHG inventory is based on the most recent year in which data is completely available and reflects conditions after recent GHG-reduction projects have been completed.

LVMWD's Historic and Current GHG Emissions

In 2000, LVMWD's major sources of emissions are electricity usage (79 percent of total emissions) and natural gas usage (7 percent of total emissions). All other sources were less than 5 percent of total emissions. In 2000, 22,804 AF of potable water and 4,904 AF of recycled water were delivered. The results of the 2012 GHG emissions inventory for LVMWD is shown in Table 4-1.

Table 4-1 LVMWD 2000 GHG Emissions Inventory

GHG-Generating Activity	Scope	2000	Average % Contribution to Total
Vehicle Fleet & Equipment	Scope 1	330	2%
Natural Gas	Scope 1	1,088	7%
Wastewater	Scope 1	253	2%
Electricity	Scope 2	11,643	79%
Electricity T&D Losses	Scope 3	563	4%
Natural Gas Leakage	Scope 3	305	2%
Employee Commute	Scope 3	322	2%
Waste	Scope 3	143	1%
Total in Metric Tons CO_2e		**14,647**	**100%**

In 2012, LVMWD's major sources of emissions are electricity usage (82 percent of total emissions) and natural gas usage (5 percent of total emissions). All other sources were 5 percent or less of total emissions. These results show GHG emissions remained relatively constant between 2000 and 2012. While most emissions sources did not experience significant changes, GHG emissions from natural gas and natural gas leakage decreased by about 38 percent. This was primarily due to decreased natural gas usage, as the LVMWD had previously been procuring additional natural gas for an onsite fuel cell that was discontinued

in the early 2000s. In 2012, 21,519 AF of potable water and 5,136 AF of recycled water were delivered. The results of the 2012 GHG emissions inventory for LVMWD is shown in Table 4-2.

Table 4-2 LVMWD 2012 GHG Emissions Inventory

GHG-Generating Activity	Scope	2012	Average % Contribution to Total
Vehicle Fleet & Equipment	Scope 1	323	2%
Natural Gas	Scope 1	679	5%
Wastewater	Scope 2	221	2%
Electricity	Scope 3	12,028	82%
Electricity T&D Losses	Scope 3	693	5%
Natural Gas Leakage	Scope 3	190	1%
Employee Commute	Scope 3	444	3%
Waste	Scope 3	143	1%
Total in Metric Tons CO_2e		**14,721**	100%

In 2021, LVMWD's and the JPA's major sources of emissions are electricity usage (78 percent of total emissions) and employee commute (5 percent of total emissions). All other sources were less than 5 percent of total emissions. These results show a trend of decreasing GHG emissions since 2012, primarily due to decreasing GHG emissions from electricity. Emissions reductions from electricity were driven by an increase in carbon free electricity procured by LVMWD and the JPA's electricity provider in response to California's Renewable Portfolio Standard (RPS), which has reduced emissions in the electricity sector since 2012.[8] LVMWD and the JPA have brought online two solar fields since 2012, one megawatt in February 2014 and a 4 megawatt expansion in January 2021. These solar fields generated over 9,000 megawatt hours of solar in 2021, offsetting the electricity use of the Tapia Water Reclamation Facility. LVMWD and the JPA have also made energy efficiency improvements from 2012 to 2021, that have contributed to the decrease in electricity emissions. Improvements included the conversion of lights at several facilities including Headquarters to LEDs and upgrading aging air blowers and a air diffusion system at the Tapia Water Reclamation Facility. The 2021 GHG emissions inventory also saw nearly a 60 percent decrease in natural gas emissions compared to 2012. In 2021, 20,546 AF of potable water and 5,300 AF of recycled water were delivered. The results of the 2021 GHG emissions inventory for LVMWD is shown in Table 4-3.

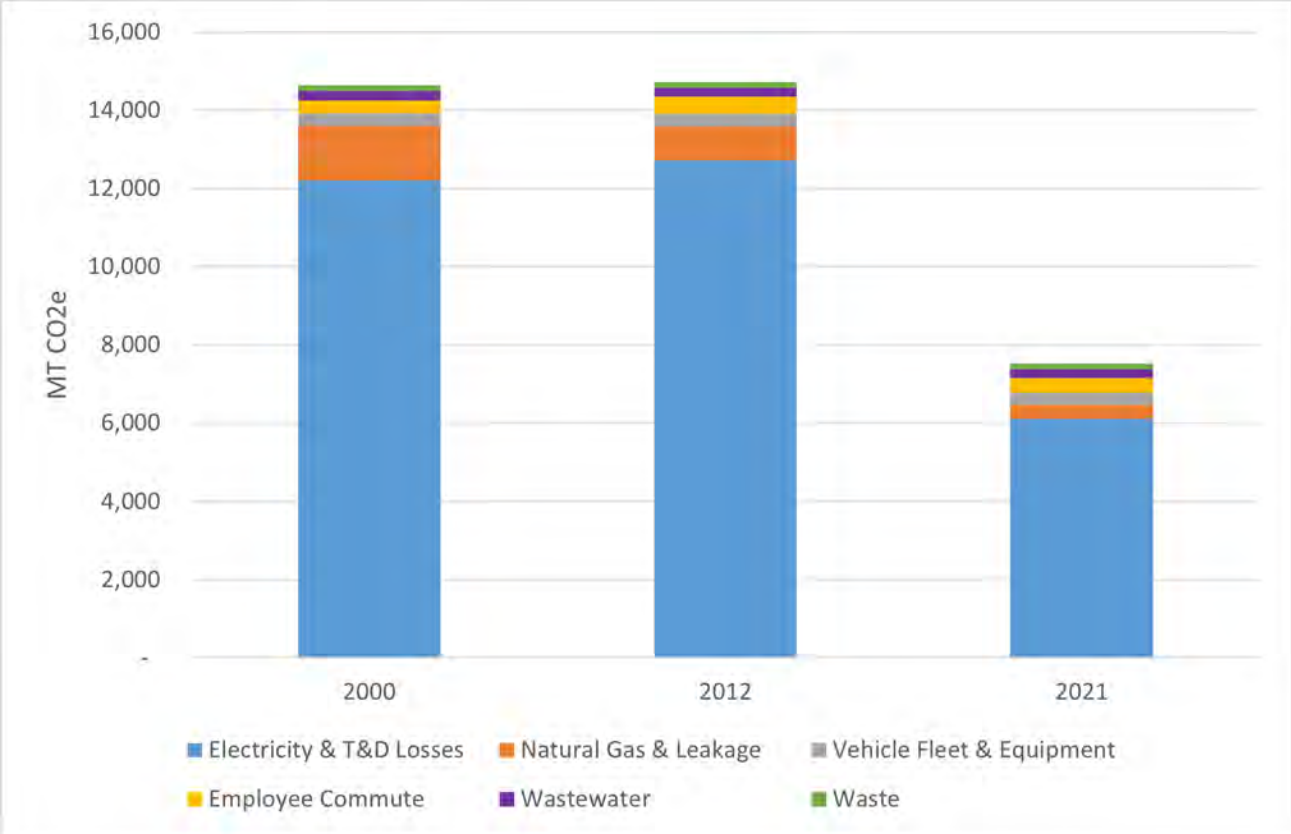
[8] California's RPS requires all retail electricity providers in California to procure 50 percent of their electricity supply from carbon-free resources by 2026, 60 percent by 2030, 90 percent by 2035, 95 percent by 2040 and 100 percent by 2045. This will effectively reduce the GHG emissions intensity of electricity across the state, including the electricity LVMWD purchases from Southern California Edison.

Table 4-3 LVMWD 2021 GHG Emissions Inventory

GHG-Generating Activity	Scope	2021	Average % Contribution to Total
Vehicle Fleet & Equipment	Scope 1	323	4%
Natural Gas	Scope 1	273	4%
Wastewater	Scope 2	232	3%
Electricity	Scope 3	5,853	78%
Electricity T&D Losses	Scope 3	258	3%
Natural Gas Leakage	Scope 1	76	1%
Employee Commute	Scope 3	371	5%
Waste	Scope 3	143	2%
Total in Metric Tons CO_2e		**7,528**	**100%**

GHG emissions have decreased by nearly 100 percent from 2012 to 2021, primarily due to significant decreases in natural gas and electricity consumption due mainly to utilizing carbon-free electricity from development of the 5 MW solar project. GHG emissions from 2000, 2012, and 2021 LVMWD's inventories are shown by sector in Figure 4-2.

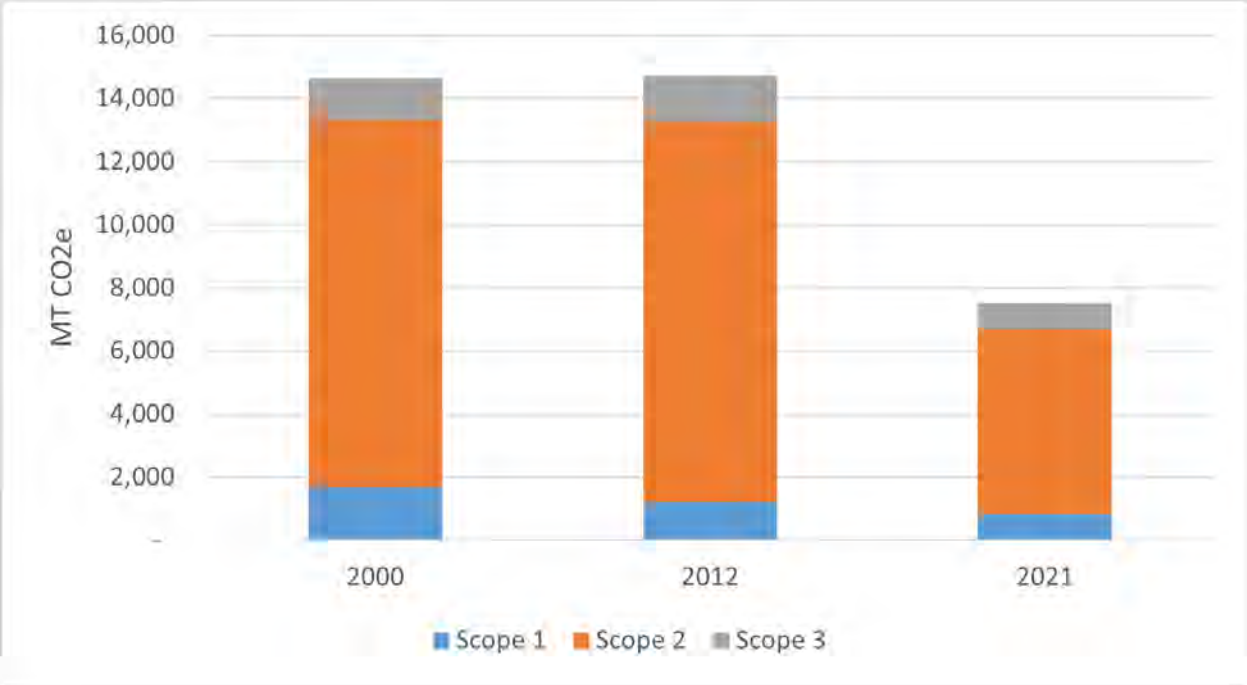
Figure 4-2 LVMWD GHG Emissions Inventory by Sector



GHG Emissions by Scope

In 2021, the majority of GHG emissions occur under Scope 2 (78 percent of total emissions), followed by Scope 1 (11 percent of total emissions) and Scope 3 (11 percent of total emissions). As such, the largest portion of GHG emissions generated by LVMWD (i.e., Scope 1 and Scope 2 emissions) are under LVMWD's operational control. The largest source of emissions – Scope 2 emissions associated with electricity usage – will continue to decrease over time as electricity sources become carbon free due to the California's RPS.[Error! Bookmark not defined.] GHG emissions by scope (1- direct emissions, 2- indirect emissions, and 3- indirect emissions) are shown in Figure 4-3 for 2000, 2002, and 2021.

Figure 4-3 LVMWD GHG Emissions Inventory by Scope



Scope 1 – Direct Emissions

LVMWD's Scope 1 GHG emissions include emissions from vehicle fleet, combustion of natural gas in LVMWD facilities, and wastewater treatment. Natural gas usage is the largest contributor to Scope 1 in 2000, 2012, and 2021.

Scope 1 emissions remained relatively steady between 2000 and 2012. However, Scope 1 emissions decreased between 2012 and 2021 due to decreased natural gas usage, as noted above. Vehicle fleet and equipment emissions and wastewater emissions remained relatively similar between 2000, 2012, and 2021, as operations did not change significantly over these time periods.

Scope 2 – Indirect Emissions

Scope 2 GHG emissions are 100 percent attributable to electricity purchased from Southern California Edison (SCE) and used by LVMWD and the JPA for their buildings and facilities. LVMWD and the JPA use electricity primarily for water pumping and wastewater treatment. In 2021, the Tapia Water Reclamation Facility's electricity consumption accounted for 44 percent of all electricity used at LVMWD and JPA facilities, although this was offset by renewable energy generated by the onsite solar power facility and other improvements such as replacement of Tapia Water Reclamation Facility's aging and inefficient air blowers and diffusion system. Scope 2 emissions have decreased between 2000 and 2021 due to the increased requirements for carbon free electricity procurement on SCE from California's RPS and energy efficiency improvements made by LVMWD and the JPA

Scope 3 – Indirect Emissions

Scope 3 GHG emissions include employee commuting, electricity transmission and distribution, natural gas leakage, and waste disposal. Electricity transmissions and distribution and natural gas leakage decreased from 2000 to 2021, as reducing electricity and natural gas consumption lead to proportionate decreases in leakage of natural gas and electricity transmission and distribution losses. Employee commute emissions and waste emissions remained relatively similar between 2000, 2012, and 2021, as operations and staffing did not change significantly over these time periods. However, a per capita decrease in employee commute emissions was experienced in 2021, as less staff worked in person due to the COVID-19 pandemic.

Historical LVMWD GHG Emissions

The GHG emissions inventory helps LVMWD and interested parties understand the relative magnitude of GHG emissions arising from each GHG-generating activity associated with LVMWD's current operations. This inventory also aided in the development of GHG emissions targets consistent with State goals. As described in Chapter 1 the State goals included in SB 32 and AB 1279, are based on reductions from the 1990 level of emissions. Because LVMWD does not have a GHG emissions inventory for 1990, 1990 emission levels associated with LVMWD operations were estimated by back casting from the 2012 inventory. The methods used to develop a back-cast to LVMWD's 1990 emissions level is described in the following section. LVMWD's adopted emissions targets are based on 1990 levels and are discussed in more detail in Chapter 5.

Back-cast to 1990

To aid in determining LVMWD's 2030 GHG emissions target, a back-cast of GHG emissions to 1990 was developed based on the 2012 inventory results. The 2012 GHG emission inventory was selected for the back-cast because this is prior to the current GHG emissions reduction projects came online, and 2012 operations were closer to the current operations than 2000 operations. The 1990 back-cast assumes that LVMWD's emissions have followed approximately the same trajectory as the state's emissions such that for a given year, emissions for LVMWD and the state have increased or decreased approximately the same percentage relative to 1990. For example, the State experienced a four percent decrease in GHG emissions between 1990 and 2012; therefore, LVMWD's 1990 emissions were assumed to be about four percent higher than the 2012 emissions levels quantified in the 2012 GHG emissions inventory. Table 4-4 shows this calculation in more detail.

Table 4-4 LVMWD's 1990 GHG Emissions Back-Cast

Emissions	Total in Metric Tons?
State of CA 1990 Emissions (MMT CO_2e)	303
State of CA 2012 Emissions (MMT CO_2e)	291
1990 Change Factor (%)	(4.03%)
2012 Emissions (MT CO_2e)	14,721
1990 LVMWD Emissions (MT CO_2e)	**15,314**

Notes: State-level GHG emissions values used for the 1990 back-cast were sourced from CARB,[9] and exclude emissions from the industrial, agricultural, and high-GWP emissions sectors, for better comparison to LVMWD's 2012 emissions inventory, which also excludes these sectors. Parathesis indicate a negative number.

LVMWD GHG Emissions Forecast

Using the 2021 inventory, future operational GHG emissions were forecasted for LVMWD. The forecast provides an estimate for how LVMWD's and the JPA's GHG emissions will look in the future, based primarily on projected services over time. These projections were derived from LVMWD's UWMP. Electricity usage by LVMWD is expected to increase in future years consistent with increased recycled water operations via the Pure Water Project, which is expected to come online in 2030. Projections used to forecast GHG emissions are based on the UWMP's 5-consecutive-year drought scenario which provides a conservative estimate of future water deliveries as a reflection of the driest 5-year historical sequence. This scenario is considered conservative as it included the largest water demand through 2045, compared to the other scenarios in the UWMP. Pure Water operations emissions are forecasted based on the CEQA documentation outlining expected future GHG emissions associated with amortized construction emissions, emergency engines, electricity use, fleet vehicles, and employee commute.[10] This forecast allows LVMWD and the JPA to estimate how GHG emissions will change based on expected water demand, and how much LVMWD and the JPA will need to reduce emissions in order to meet GHG reduction targets for 2030 and 2045. Historical and projected water demand[11] is shown in Figure 4-4. Potable water demand is expected to increase by up to 27 percent between 2021 and 2045, in accordance with the 2020 UWMP project population growth in LVMWD's service area. The actual increase in potable water demand may be less due to more recent efforts to reduce water demands in the wake of the 2020-2022 drought along with implementing new conservation regulations. With conservation efforts, recycled water demand is expected to decrease by approximately 12 percent between 2021 and 2045, as recycled water used for landscape irrigation and golf course irrigation is projected to decrease through 2045. Recycled water consumption may by reduced by as much as 20 percent if conservation efforts are prioritized. Limited

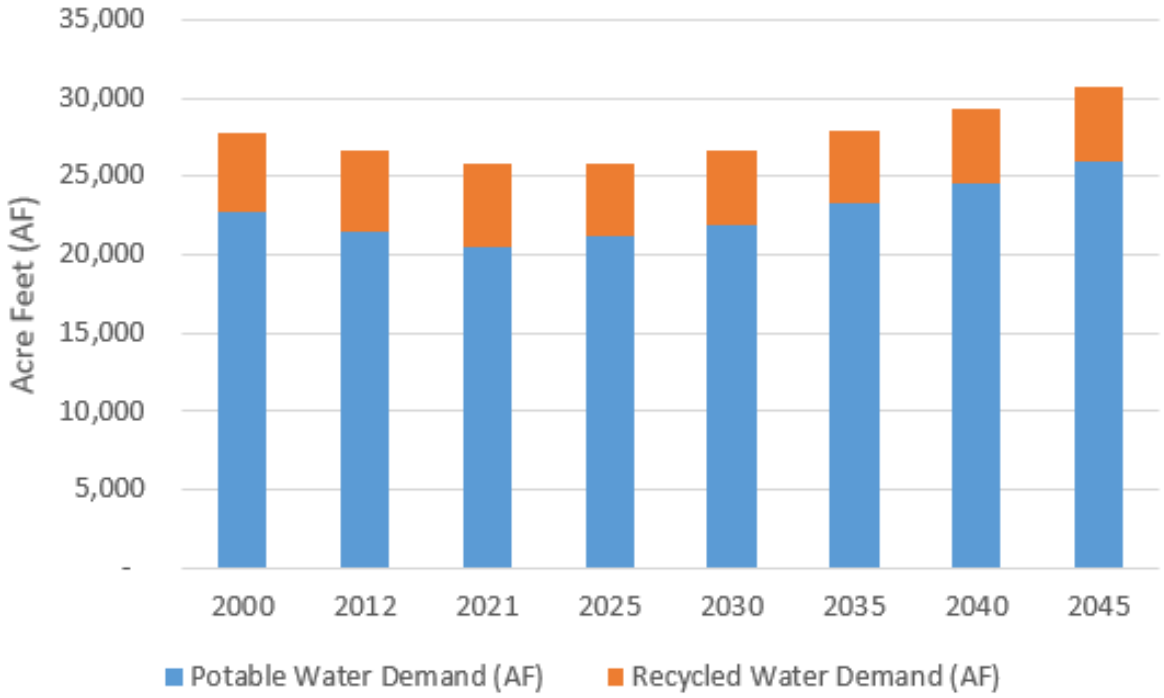
[9] California Air Resources Board (2022). California Greenhouse Gas Emission Inventory - 2022 https://ww3.arb.ca.gov/cc/inventory/data/data.htm. Accessed July 2023

[10] LVMWD. Appendix A Emissions Calculations. https://www.lvmwd.com/home/showdocument?id=14540

[11] Projected water deliveries were used as a proxy for all LVMWD's future services, with the assumption that LVMWD operations scale approximately with water delivery to customers. Accessed July 2023

opportunities for developing substantial new recycled water demands and LVMWD encouraging conservation are expected to influence future decreases in recycled water demand.[12]

Figure 4-4 Historical and Projected Water Demand



To clearly demonstrate how LVMWD's emissions will look in the future, two forecasts were developed – a business-as-usual (BAU) forecast, and an adjusted forecast. The BAU forecast shows what LVMWD's emissions would look like based on water delivery projections alone. The adjusted forecast adjusts the BAU forecast to account for State-level implementation of policies and programs that will help California reduce its emissions through 2045. For LVMWD, the adjusted forecast includes the California RPS,[13] which will significantly reduce LVMWD's GHG emissions from electricity through 2045 due to the requirements on utility providers to be entirely renewable and carbon-free by 2045. Based on review of other State legislation intended to reduce GHG emissions, such as Title 24 and the Advanced Clean Cars program, they were found to have limited impact on LVMWD operations and therefore were not included in the adjusted forecast.

Incorporating State-level policies and programs in the adjusted forecast creates a more realistic picture of what LVMWD's emissions will look like in the future. The BAU forecast is useful for comparison with the adjusted forecast, to show the extent to which State-level policies and programs will help to reduce GHG emissions at LVMWD (Figure 4-5). Under the BAU forecast, overall emissions are projected to increase steadily through 2045, as service population and water services continue to grow, and as the Pure Water Project comes online in 2030. However, in the adjusted forecast, electricity emissions will significantly

[12] LVMWD. 2020 Urban Water Management Plan. https://www.lvmwd.com/home/showpublisheddocument/13459/637616788962730000. Accessed July 2023

[13] Adopted in September 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's RPS Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

decrease through 2045, decreasing total emissions over time. The numerical results of the forecast are included in Table 4-5.

Figure 4-5 LVMWD GHG Emissions Forecast

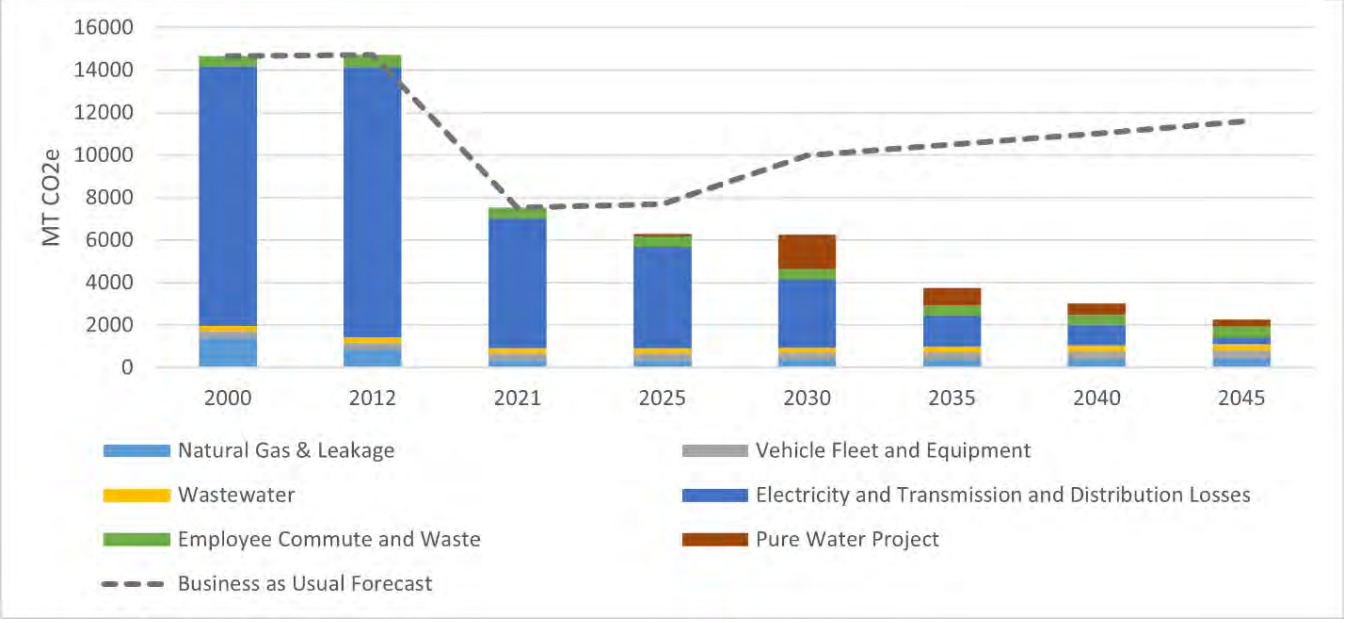


Table 4-5 LVMWD GHG Emissions Forecast

Emissions Source	2025	2030		2035	2040	2045
Forecast Summary (MT CO_2e)						
BAU Forecast	7,681	9,996		10,499	11,018	11,579
Adjusted Forecast	6,287	6,249		3,740	3,028	2,260
Legislative Reductions	1,395	3,747		6,758	7,989	9,319
Adjusted Forecast Detail (MT CO_2e)						
Vehicle Fleet & Equipment	323	332	348	365	383	
Natural Gas	273	281	295	309	324	
Natural Gas Leakage	76	79	82	86	91	
Wastewater	242	256	271	281	298	
Electricity	4,564	3,069	1,400	898	0	
T&D Losses	201	135	62	40	0	
Employee Commute	347	330	324	324	336	
Waste	143	147	154	162	170	
Pure Water	117	1,619	805	563	197	

5. Climate Action Targets

International Context

Climate change is a global phenomenon and a major driver for GHG reduction activities which have continued to evolve on the international level. The United Nations Framework Convention on Climate Change (UNFCC) is an international environmental treaty, signed by 154 states at the United Nations Earth Summit in June 1992. The Framework established responsibilities for participating countries to reduce their anthropogenic emissions and return to 1990 emissions levels. The treaty was superseded in 2016 by the Paris Agreement, which established a goal to keep the rise in global average temperatures below 2 °C with efforts to limit increases to 1.5 °C by reducing global GHG emissions to carbon neutrality by mid-century.[1] The Paris Agreement has been ratified by 191 members of the UNFCC.[2]

To assist in achieving these ambitious goals, the United Nations developed Sustainable Development Goals (SDG) intended to be achieved by the year 2030. The SDGs are a collection of 17 interlinked global goals designed to guide sustainable development. These international frameworks have become the drivers for many of California's own climate related legislation.

Climate Action at the State Level

California has become a global leader in climate change action, having established extensive legislation, policies, and programs to reduce GHG emissions within the state over the last decade. The primary drivers of climate action at the state level are Assembly Bill (AB) 32, Senate Bill (SB) 32, and AB 1279. These regulations chart a path towards a carbon neutral California by 2045, as explained below.

Assembly Bill 32 – Codified the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires the California Air Resources Board (CARB) to prepare a Scoping Plan that outlines the main strategies the State will employ to meet the 2020 target. The AB 32 Scoping Plan was adopted in 2014.

Senate Bill 32 – The successor to AB 32 and requires the State of California to achieve a statewide reduction in GHG emissions of 40 percent below 1990 levels by 2030. The SB 32 Scoping Plan was adopted in 2017.

Assembly Bill – AB 1279, adopted in 2022, codifies the statewide carbon neutrality goal into a legally binding requirement for California to achieve carbon neutrality no later than 2045 and ensure 85 percent GHG emissions reduction under that goal. AB 1279 builds upon Executive Order B-55-18 which originally established California's 2045 goal of carbon neutrality.

Programs and policies that support the goals established in the above bills and which will impact GHG emissions for LVMWD include the California Renewable Portfolio Standard (RPS), which, through SB 1020 and SB 100, requires electricity providers to procure 100 percent of electricity from renewable and

[1] IPCC. Special Report. https://www.ipcc.ch/sr15/. Accessed July 2023
[2] UN Climate Change. Paris Agreement. https://unfccc.int/process/the-paris-agreement/status-of-ratification. Accessed July 2023

carbon-free sources by 2045.[3] The Advanced Clean Fleets rule will also support the goals by requiring LVMWD to transition to a 100 percent zero-emission capable utility fleet by 2045. LVMWD may choose to purchase only ZEVs beginning in 2024 and remove internal combustion engine vehicles at the end of their useful life or elect to meet the State's ZEV milestone targets as a percentage of the total fleet starting with vehicle types that are most suitable for electrification.[4]

LVMWD's Climate Action Targets

While LVMWD is not beholden to AB 32, SB 32, or AB 1279, and currently faces no legislative requirements to reduce their GHG emissions, the State recognizes water agencies as one of the largest contributors to energy emissions in California, primarily due to the large quantities of electricity used to pump water. It is also anticipated that as California works towards the 2045 carbon neutrality goal, additional legislation and regulations will be established in the future that may require LVMWD to adopt low-carbon practices and operations. As part of the process of developing a CAAP, LVMWD has elected to establish climate action targets that align with the State's goals to serve as targets for LVMWD's and the JPA's operations going forward and provide a framework for achieving voluntary GHG emissions reductions in future years. LVMWD has taken many steps already to reduce emissions, conserving resources, and reducing energy usage; the CAAP builds on those existing efforts.

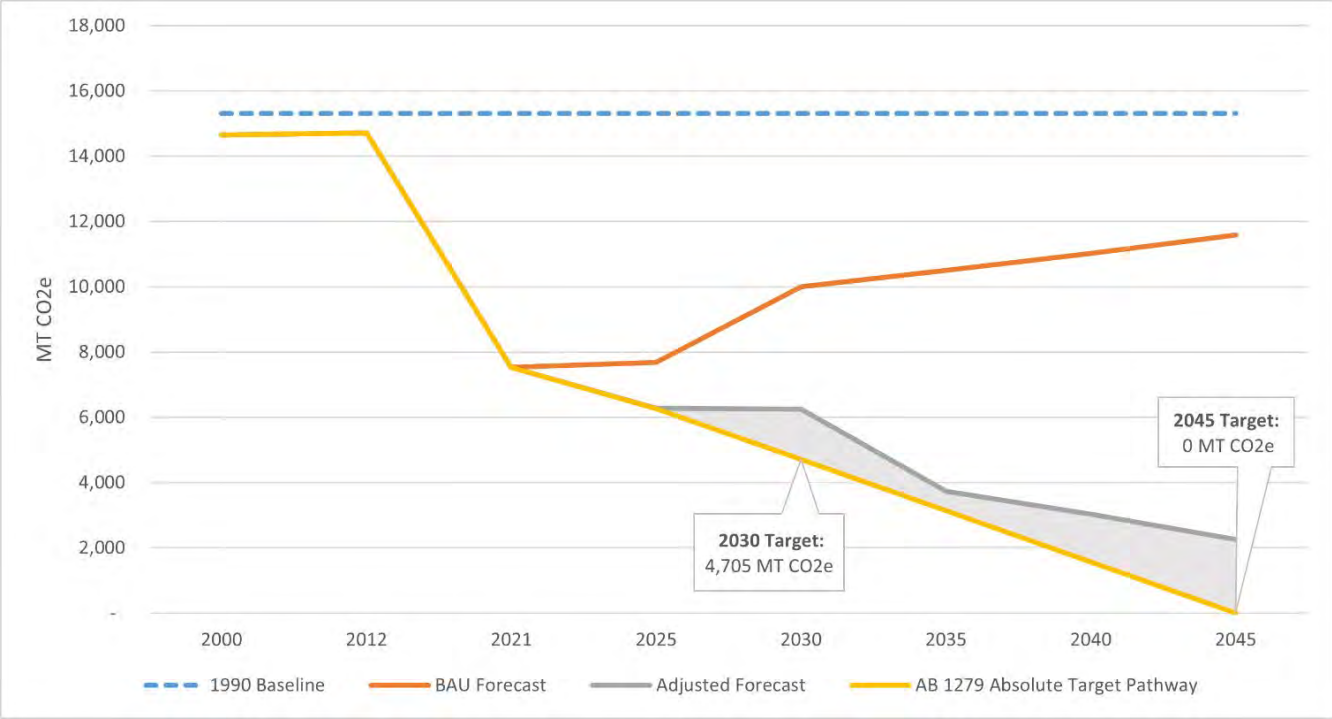
This CAAP establishes a 2030 GHG emissions target in alignment with the annual reduction rate needed to eventually meet the State's 2045 carbon neutrality goal, as set forth by AB 1279. By setting a straight line from 2021 emissions levels to the AB 1279 target, the 2030 target will surpass the SB 32 goal of a 40 percent reduction in GHG emissions from 1990 level by 2030 and will put LVMWD on a pathway to achieving carbon neutrality by 2045.[5] LVMWD's climate action targets are shown in Table 5-1, along with the 1990 back-cast emissions level from the 2012 inventory,[6] adjusted forecast emissions, percent reduction from 1990 levels and the emissions gap (the difference between the AB 1279 absolute target pathway and adjusted forecast emissions). The target emissions trajectory in absolute emissions is shown in Figure 5-1. Figure 5-1 also shows the BAU forecast, adjusted forecast, and the 1990 baseline inventory back-cast.

Table 5-1 LVMWD Climate Action Targets

	2025	2030	2035	2040	2045
1990 Baseline	15,314	15,314	15,314	15,314	15,314
Adjusted Forecast	6,287	6,249	3,740	3,028	2,260
Target Pathway developed from 1990 Levels					
AB 1279 Absolute Target Pathway	6,273	4,705	3,136	1,568	0
Percent Reduction from 1990 Levels	59%	69%	80%	90%	100%
Emissions Gap	14	1,544	604	1,460	2,260

[3] As part of California's RPS program SB 100 signed in 2018 mandated that electricity providers increase GHG-free sources to 100 percent of total procurement by 2045. Furthering RPS requirements, SB 1020 established additional requirements that procurement from eligible renewable energy resources increase to 90 percent of total procurement by 2035 and 95 percent of total procurement by 2040.
[4] CARB. Advanced Clean Fleets. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets. Accessed July 2023
[5] Carbon neutrality refers to achieving net-zero CO2e emissions, such that any GHG emissions created are offset by GHG emissions sequestering activities.
[6] A back-cast of GHG emissions to 1990 was developed based on the 2012 inventory results, as the 2012 GHG emission levels are before current GHG emissions reduction projects came online and 2012 operations were closer to the current operations than 2000 operations.

Figure 5-1 LVMWD Forecast and Climate Action Targets



GHG Emissions Gap

As shown in Figure 5-1, a gap remains between the projected emissions (grey line) and the target emissions (yellow/lighter orange line), even after accounting for reductions that will result from state legislation. This gap is equal to 1,544 MT CO_2e in 2030 and 2,260 MT CO_2e in 2045. This gap is how much LVMWD will need to reduce its GHG emissions to meet the target of carbon neutrality by 2045. LVWMD aims to close this gap by implementing the GHG measures presented in Chapter 6. Several of these measures, along with the climate adaptation specific measures, will also increase LVMWD's resilience to climate change in the coming years.

6. GHG Emissions Reduction and Adaptation Measures

LVMWD and the JPA have developed GHG emissions mitigation and adaptation measures that support the reduction of GHG emissions to levels that align with the State's GHG emissions reduction goals and reduce climate risks to the District's operations, infrastructure, and natural resources. Together, these measures will reduce the gap between LVMWD's forecasted GHG emissions and its reduction targets. While the measures do not fully achieve the 2045 GHG emissions reduction target identified in Chapter 5, they provide for substantial progress towards LVMWD's carbon neutrality target, with the expectation that additional legislation, technology, and measures shall be identified in the future to achieve further reductions. As discussed in Chapter 1, a primary benefit of adopting proactive plans with quantifiable progress towards CAAP goals is the identification of clear measures that with funding shall reduce GHG emissions and reduce climate risks. This Plan aligns with many of the goals and requirements of State and federal grant funding.

Table 6-1 summarizes each GHG reduction and adaptation measure and details the potential GHG emission reductions that can be achieved through full implementation of quantifiable measures. As shown in Table 6-1, implementation of these measures can significantly reduce GHG emissions and improve the operational resilience of LVMWD's and the JPA's facilities. Through implementation of GHG quantifiable measures and actions, LVMWD can achieve the 2030 GHG emissions reduction target, as seen in Table 6-1.

Unless otherwise mandated by the State or federal government, cost analysis and feasibility studies will be conducted and individual reduction and adaptation measures will be implemented only if authorized by the Board of Directors for LVMWD and the JPA. Services provided by LVMWD and the JPA will need to remain affordable to customers. The Board of Directors for LVMWD and the JPA will have discretion in deeming the feasibility of implementing individual measures.

Table 6-1 GHG Reduction and Adaptation Measures by Sector

Measure Code	Mitigation/Resilience	GHG Reduction Measure	2030 GHG Reduction Potential (MT CO_2e)	2045 GHG Reduction Potential (MT CO_2e)
Infrastructure				
I-1	Mitigation	Utilize carbon-free electricity for 100% of electricity needs by 2030.	453	0
I-2	Mitigation	Electrify new and existing stationary equipment to reduce natural gas consumption 75% by 2030 and 100% by 2045.	219	415
I-3	Mitigation	Utilize renewable diesel and alternative fuels to bridge the technology gap and decarbonize stationary equipment to reduce diesel consumption by stationary equipment 100% by 2030.	36	41
I-4	Mitigation, Resilience	Increase energy storage at facilities and buildings.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
I-5	Mitigation	Improve energy efficiency at facilities and buildings.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
I-6	Mitigation	Reduce process and fugitive GHG emissions associated with wastewater treatment.	5	6
I-7	Resilience	Maximize backup power facilities for all critical assets, in alignment with Measure I-4.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
I-8	Resilience	Support the regional development of dry and wet weather diversions as a supplementary source for recycled potable water.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
I-9	Resilience	Improve the Supervisory Control and Data Acquisition system.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
I-10	Mitigation, Resilience	Require the incorporation and identification of mitigation and adaptation features into new capital projects.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
I-11	Mitigation, Resilience	Implement the Pure Water Project Las Virgenes Triunfo.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
Operations				
O-1	Mitigation	Electrify or otherwise decarbonize the vehicle fleet such that 75% of the vehicle fleet are ZEV by 2030 and 100% of the vehicle fleet are ZEV by 2045.	102	342
O-2	Mitigation	Increase employee commute ZEV adoption to 25% by 2030 and 50% by 2045.	48	136
O-3	Mitigation	Reduce employee commute VMT by 15% by 2030 and 30% by 2045.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
O-4	Mitigation	Develop a net zero waste program such that waste sent to the landfill is reduced by 90% by 2030 and maintain through 2045.	133	153
O-5	Mitigation, Resilience	Increase water conservation reducing demands by at least 20% by 2030 and maintain through 2045.	855	0
O-6	Resilience	Develop resource programs and protocols to protect staff from climate extremes.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
O-7	Resilience	Maximize operational flexibility and redundancies, including water transfer agreements, interties, flexible exchanges, additional system interconnections, and points of delivery.	GHG Emissions Not Quantified	GHG Emissions Not Quantified

Measure Code	Mitigation/Resilience	GHG Reduction Measure	2030 GHG Reduction Potential (MT CO_2e)	2045 GHG Reduction Potential (MT CO_2e)
Natural Resources				
NR-1	2,3	Investigate and implement carbon capture and sequestration opportunities to offset all Water Reclamation Facility fugitive emissions by 2045.	6	48
NR-2	2	Catalog and improve the stability of hillside monitoring and stabilization efforts after heavy rain events in areas at risk of landslides and debris flows to minimize impacts to District infrastructure and equipment.	GHG Not Emissions Quantified	GHG Emissions Not Quantified
NR-3	2	Protect the Las Virgenes Reservoir from sedimentation associated with extreme climate events.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
NR-4	2,4,5	Develop and implement a wildfire abatement and response policy.	GHG Emissions Not Quantified	GHG Emissions Not Quantified
GHG Emissions Reduction Summary				
Total GHG reduction potential with full implementation of all measures			1,857	1,140
Total GHG reductions needed to meet LVMWD's Reduction Goals[3]			1,544	1,797
GHG reductions remaining			-313	657

GHG = greenhouse gas; LVMWD = Las Virgenes Municipal Water District; MT CO_2e = metric tons of carbon dioxide equivalent; VMT = vehicle miles traveled; ZEV/EV = zero emission vehicle/electric vehicle

I = Infrastructure; O = Operations; NR = Natural Resources

[1] As described in Chapter 5, LVMWD established GHG reduction goals in alignment with AB 1279 Absolute Target pathway.

6.1 Measure Organization

CAAP measures include specific goals that LVMWD and the JPA will work towards to reduce GHG emissions and improve resilience to climate change. As a water district that provides a vital service to its customers, implementation of climate action and adaptation measures must also be balanced against the cost of water and wastewater services for ratepayers. Increased rates could have equity and other impacts if not thoughtfully considered, thus, each measure can only be implemented once it is deemed financially feasible or when funding/financing has been identified. However, LVMWD and the JPA also understands that failing to prepare for climate change could substantially increase costs in the future, so care must be taken to strike the right balance. Therefore, consistent with LVMWD's and the JPA's overall mission, measures that could result in a significant increase in costs were removed from consideration. Measures are organized by asset, and consist of a suite of actions that support each measure:

1. **Asset:** Measures are categorized into three asset categories:
    a. Infrastructure
        i. Infrastructure includes various components of its water and wastewater system that pump, transport, divert, store, treat and deliver water.
    b. Operations
        i. Operations include the staff, equipment, and systems that keep day-to-day operations and services running.

c. Natural Resources

i. Natural resources include materials and natural substances such as water, soil, vegetation, and wildlife.

2. **Measures:** Measures define quantitative and qualitative goals within each asset category that will contribute to reducing GHG emissions and/or increase resilience.
3. **Actions:** Actions consist of the specific activities that will be completed in support of each measure, which together accomplish each measure's goal.

Some CAAP measures and their actions include *quantifiable* GHG emissions (i.e., with clearly defined GHG emissions reduction potential). Other actions are not quantifiable, and either contribute to the realization of GHG remissions reduction potential of other measures or actions or increase the resilience of LVMWD and the JPA to climate change. An example of a quantifiable action is purchasing a specific amount of carbon-free electricity, while a supportive (not quantifiable) action is conducting an annual return on investment analysis of carbon-free electricity packages. Measures and actions that seek to increase resilience to climate change are not considered quantifiable in this CAAP, as the quantified metric being considered is GHG emissions. Together, the CAAP measures and their actions establish a foundational pathway to make substantial progress towards achieving 2030 and 2045 GHG reduction goals and increasing resilience to climate change. Measures and actions will be tracked and re-evaluated on a regular basis to help ensure achievement of the projected reductions.

6.2 Objectives

The CAAP measures and actions were developed in alignment with LVMWD's strategic objectives, as outlined in the 2022 LVMWD Strategic Plan. LVMWD's strategic objectives are:

1. Develop a strategy to maintain a highly effective workforce
2. Improve LVMWD's water supply reliability
3. Support customers to meet water-use efficiency standards
4. Eliminate the discharge of pollutants to Malibu Creek and preserve the natural beauty of the Watershed
5. Achieve a high credit rating for LVMWD's three enterprises
6. Reduce LVMWD's carbon footprint
7. Keep customers, city officials and other stakeholders well-informed and provide new/improved customer tools to enhance service delivery
8. Develop a process to act on efficiency improvement suggestions
9. Enhance LVMWD's asset management programs

The strategic objectives were assessed and used to guide the development of a set of five CAAP objectives that connect the CAAPs goals of reducing GHG emissions and increase resilience to climate change and the overall strategic goals of LVMWD. The CAAP's objectives are outlined and described below.

Objective 1: Enhanced Water Supply Diversification

Investments in a diverse water supply portfolio will allow LVMWD and the JPA to manage the associated projected climate risks and uncertainties. Efforts to increase dry and wet weather diversions, minimize reliance on imported water, and develop reliable local water sources will strengthen and increase the resilience of the water supply portfolio.

Objective 2: Better Protected Water Resources

Implementing natural resources, land, and ecosystem management efforts will protect water resources from climate risks. CAAP measures that align with this objective reduce the pressure on local natural resources by allowing more space for trees and native habitats, preserving natural water supplies and increasing resilience of water resources.

Objective 3: Increased Operational Efficiency and Resource Management

Implementing programs that manage resource demand will allow LVMWD and the JPA to continue to provide high-quality water sustainably. Increasing operational efficiencies often contributes to reductions in resource consumption and cost savings. To maintain a long-range, transparent, stable, and well-planned financial condition, resulting in current and future water users receiving fair and equitable rates, it will be important to implement projects and programs that reduce financial risk through resource management and increased operational efficiencies.

Objective 4: Improved Operational Flexibility and Reliability

Retaining a reliable water supply and operations is at the heart of LVMWD's mission. Developing climate solutions and planning for issues such as energy shortages, power safety shutoffs, and drought allows LVMWD to make its operations more resilient and continue to provide water reliably and affordably to the community.

Objective 5: Better Connected People and Water

Prioritizing projects that engage LVMWD's and the JPA's customers, community, and partners will facilitate increased community support and involvement in climate action and adaptation efforts. LVMWD and the JPA will continue to support programming that enhances existing relationships and better connects the community with efforts to conserve water and mitigate climate change impacts on LVMWD's and the JPA's service area, employees, and customers.

6.3 Infrastructure Measures

Measure I-1: Utilize carbon-free electricity for 100% of electricity needs by 2030.

Electricity consumption is LVMWD's single largest emission source. While SB 100 drives the conversion of retail electricity to 100% renewable by 2045, procuring carbon-free electricity now expedites this timeline and will provide significant reductions in LVMWD's GHG emissions. By opting into a renewable electricity tier through the electricity provider, LVMWD has the opportunity to achieve most of its GHG emissions reduction's goal. Furthermore, switching to low-carbon or carbon-free electricity will make other measures more impactful by further reducing GHG emissions. For example, electrification of buildings, equipment and vehicles will achieve a greater GHG emission reduction if the electricity sourced is low-carbon or carbon neutral. LVWMD currently receives electricity from Southern California Edison (SCE). SCE offers a 50 percent green rate option and 100 percent green rate option to its customers. LVMWDwill also consider procuring electricity from Clean Power Alliance (CPA), a community choice aggregation (CCA) entity providing customers in Los Angeles and Ventura counties carbon-free electricity. CPA provides options of 40 percent, 50 percent, and 100 percent carbon-free electricity. In addition to changing its electricity procurement strategy, developing additional onsite solar and pairing with battery storage (Measures I-4 and I-7), will both reduce GHG emissions and increase resilience to disturbances such as power outages.

Actions

- **Action I-1.1:** Install 1 MW of solar PV at Rancho Sprayfield by 2025.
- **Action I-1.2:** Conduct a feasibility study to understand the potential for installing up to 15 megawatt (MW) of floating solar photovoltaics at Las Virgenes Reservoir, including potential costs, payback periods, and resilience impacts.
- **Action I-1.3:** Conduct an assessment to identify the solar capacity needed to support the additional electricity demand from LVMWD's goals for vehicle fleet and employee commuter fleet EV adoption.
- **Action I-1.4:** Identify partners to assess and pursue floating solar photovoltaics, such as firms that specialize in power purchase agreements (PPA) and SCE. Work with partners to pursue funding opportunities and tax credits for the installation of floating solar photovoltaics such as opportunities through the Department of Energy (DOE) Solar Energy Technologies Office (SETO and the federal Investment Tax Credit and Production Tax Credit.
- **Action I-1.5:** Based on the results of the studies and if deemed feasible, install up to 15 MW of floating solar photovoltaics at Las Virgenes Reservoir and additional onsite solar generation.
- **Action I-1.6:** Incorporate design elements into the Pure Water Project Las Virgenes – Triunfo to minimize GHG emissions to the greatest extent feasible. This should include energy efficient processes, identification of alternative fuels or technologies for processes that cannot be electrified, developing the project to be electricity ready where feasible, opportunities to directly link to onsite renewables and battery storage, and identification of the energy source to offset indirect electricity emissions, such as using the Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) tariff for renewable energy generation from other District sites where onsite renewables will not offset the emissions.
- **Action I-1.7:** Identify if the JPA/LVMWD can source electricity from Clean Power Alliance (CPA) and conduct an annual return on investment (ROI) analysis of carbon-free electricity packages

available from SCE and CPA to determine which would be more cost-effective. Analysis should include a cost evaluation of switching all electricity accounts to 100 percent carbon-free electricity to ensure electricity consumption not covered by onsite solar will be 100 percent carbon-free.

- **Action I-1.8:** Depending on the results of the ROI analysis and if deemed feasible, switch some or all electricity accounts to 100 percent carbon-free electricity from with SCE "Green Rate" or to a CPA "100% Green Power".
- **Action I-1.9:** Conduct a study to identify what amount of pumping that can be scheduled utilizing a high level of renewable energy and offset the remaining amount with battery stored solar energy.

Target Metrics

- 100 percent carbon-free electricity by 2030
- Install additional onsite solar fields

GHG Emissions Reductions

- 453 MT CO_2e in 2030

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure I-2: Electrify new and existing stationary equipment to reduce natural gas consumption 75% by 2030 and 100% by 2045.

Infrastructure electrification is promoted by several State-level programs, including SB 350[1] and AB 3232,[2] which require reductions in energy usage in buildings and a transition to a low-carbon building stock. SB 350 requires that the State double the energy efficiency savings in natural gas usage by 2030. AB 3232 requires the California Energy Commission (CEC) evaluate strategies to reduce the State's building stock GHG emissions by 40 percent below 1990 levels by 2030. The CEC's Building Energy Efficiency Standards (Title 24 Parts 6 and 11) includes building standards and codes that support decarbonization efforts through requiring improvements in energy efficiency of building equipment to occur at time of new construction and upgrades.

By phasing out natural gas equipment for electric equipment, while using carbon-free electricity, LVMWD's and the JPA's GHG emissions associated with this equipment will fall to zero. Replacing natural gas equipment should be completed over time as existing natural gas infrastructure needs to be replaced. When replacing items like hot water heaters and Heating, Ventilation, and Air Conditioning (HVACs) units, LVMWD and the JPA will look to replace natural gas combustion units with heat pumps that can operate at nearly 400 percent increased efficiency.[3] Replacing fossil fuel combustion equipment with electric alternatives will align with the State policies and Title 24 requirements. Phasing out natural gas backup generators is a lower priority in the near term, as they provide critical resilience benefits.

1 CEC. Clean Energy and Pollution Reduction Act – SB 350. https://www.energy.ca.gov/rules-and-regulations/energy-suppliers-reporting/clean-energy-and-pollution-reduction-act-sb-350. Accessed July 2023

2 CEC. Assembly Bill 3232 and the California Building Decarbonization Assessment. https://www.energy.ca.gov/sites/default/files/2021-08/AB3232_Building_Decarbonization_Assessment_Factsheet_ADA.pdf

3 Tri-State. 2021. Advantages of Energy Efficient Heat Pumps. https://tristate.coop/advantages-heat-pumps-energy-efficiency#:~:text=What's%20the%20efficiency%20performance%20of,coefficient%20of%20performance%2C%20or%20COP. Accessed July 2023.

Actions

- **Action I-2.1:** Conduct a survey of existing natural gas operated equipment and identify operationally and financially viable electric alternatives. By 2025, establish a schedule to replace existing natural gas-consuming equipment with electric or carbon neutral alternatives (i.e., e-fuels).
- **Action I-2.2** Develop and implement a policy requiring new equipment to be electric or carbon neutral. Require an infeasibility waiver to be submitted and approved when new equipment cannot be electrified. The infeasibility waiver process shall identify other opportunities to decarbonize the new stationary equipment (e.g., use of renewable diesel/e-fuel).
- **Action I-2.3:** Explore rebate, grant, or partnership opportunities to fund the replacement of natural gas-consuming equipment like HVAC and hot water heaters with electric-powered equivalents like heat pumps.
- **Action I-2.4:** Educate staff of the electrification requirement and implement the schedule to replace non-emergency use natural gas-consuming equipment with electric-powered equivalents to reduce natural gas consumption.

Target Metrics

- 75 percent reduction in natural gas by 2030
- 100 percent reduction in natural gas by 2045

GHG Emissions Reductions

- 219 MT CO_2e in 2030
- 415 MT CO_2e in 2045

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure I-3: Utilize renewable diesel and alternative fuels to bridge the technology gap and decarbonize stationary equipment to reduce diesel consumption by stationary equipment 100% by 2030.

LVMWD currently uses a combination of gasoline and diesel to fuel its fleet vehicles and stationary equipment, including backup emergency power generators. While zero-emission heavy-duty vehicles are not currently market-ready, using low-carbon intensity fuels like renewable diesel in existing vehicles and equipment does not require substantive equipment alterations and helps reduce GHG emissions over the short term. The use of alternative fuels allows for additional time to fully vet and/or pilot the new zero-emission technology before infrastructure investments are made, which could help improve the return on investment. The State's Low Carbon Fuel Standard (LCFS) regulation is driving the market to increase the availability and decrease the cost of alternative fuels that may offer a return-on-investment benefit to switch to alternative fuels now in equipment and fleet vehicles that do not need technology changes. Using renewable diesel in existing vehicles can decrease the costs of maintaining equipment over traditional diesel due to a decreased need for diesel particulate filter services, as renewable diesel has less impurities such as sulfur, oxygen, and other aromatic compounds.[4]

Actions

- **Action I-3.1:** Conduct a feasibility study to assess opportunities to decarbonize LVMWD's and the JPA's existing back-up generators using drop-in renewable diesel. As part of the assessment, determine a timeline for the renewable diesel transition, the quantity of renewable diesel needed, and any additional costs incurred from the transition. Include potential impacts of new renewable diesel equipment.
- **Action I-3.2:** Identify partners for a reliable source of renewable diesel and fuel (e.g., Diamond Green Diesel).
- **Action I-3.3:** Based on the feasibility study, develop a policy to transition all generators to renewable fuels.
- **Action I-3.4:** Develop and distribute educational materials to relevant staff members on the renewable diesel policy requirement and associated air quality and health benefits of the transition outlines in Action I-3.3.
- **Action I-**3.5 Pursue and monetize LCFS credits associated with renewable fuel conversions in vehicles.

Target Metrics

- 100 percent replacement of diesel with renewable diesel by 2030

GHG Emissions Reductions

- 36 MT CO_2e in 2030
- 41 MT CO_2e in 2045[5]

4 Neste. Fueling Renewed Trust in Public Fleets. https://www.neste.us/neste-my-renewable-diesel/industries/public-fleets. Accessed July 2023.
5 GHG emissions reductions are projected to increase by 2045 as forecasted fleet and equipment GHG emissions are projected to increase.

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure I-4: Increase energy storage at LVWMD and JPA facilities and buildings.

Energy storage systems are a proven strategy to maximize use of renewable energy by storing the energy produced during peak renewable generation periods. By storing renewable energy, LVMWD and the JPA will increase their energy residence and reduce GHG emissions by charging the battery system during times of low grid emissions and discharging them during periods of high emission electricity. The batteries can also be used to conduct rate arbitrage, by charging during times when electricity is cheapest and offsetting the peak (most expensive) power periods through use of stored energy. Power loss can lead to operational failure as key facilities and systems, including pumps and the water reclamation facility, may not be able to operate. Battery storage systems will also add increased operational resilience by allowing facilities to operate for periods of time without power from the grid.

Actions

- **Action I-4.1:** Conduct an assessment to identify existing battery storage capacity and priority locations for battery storage installation.
- **Action I-4.2:** Conduct a feasibility study to evaluate the opportunities for charging onsite batteries with onsite solar. Based on the study, require the design of the Pure Water Project Las Virgenes – Triunfo to identify battery storage solutions to mitigate impacts from power outages in addition to back-up generators powered by renewable fuel.
- **Action I-4.3:** Explore funding opportunities to obtain and install a combined total of 5 MW battery storage at critical facilities. Identify opportunities through the Inflation Reduction Act of 2022 incentives including Energy Infrastructure Reinvestment Financing and the Solar Investment Tax Credit.
- **Action I-4.4:** Continue time of use program that identifies and establishes permanent shifts of high-electricity use to times when renewable energy is plentiful through educational programs on energy and thermal storage, load timing/controls, pre-cooling/pre-heating, and other time-energy demand measures.
-

Target Metrics

- Energy storage solutions implemented
- Assessments completed
- Funding obtained
- 5 MW battery storge installed

GHG Emissions Reductions

- GHG Emissions Not Quantified[6]

6 GHG emissions were not quantified for Measure I-4 as energy storage systems in themselves do not lead to reductions in GHG emissions, however they do support GHG reductions associated with onsite renewable energy sources.

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure I-5: Improve energy efficiency at LVMWD and JPA facilities and buildings.

Improving pump efficiency, installing LED lighting, and installing energy recovery systems will all reduce the total demand for electricity from LVMWD's and the JPA's systems, saving money and reducing GHG emissions. Improving equipment efficiency also aligns with the California Building Energy Efficiency Standards (Title 24).

Actions

- **Action I-5.1:** Identify aging equipment due for replacement throughout JPA and LVMWD facilities and identify energy efficient alternatives to use for the replacement (e.g., EnergyStar certifications). Prioritize energy efficient electric equipment over natural gas and diesel equipment, where feasible. Include a return on an investment analysis as part of the replacement process that evaluates the capital investment for an energy efficient alternative piece of equipment, cost savings associated with improved energy efficiency, and identifies any grants or rebates associated with such equipment replacement. For equipment identified in Action I-2.2 that received the infeasibility waiver, ensure energy efficiency alternatives are selected.
- **Action I-5.2:** Develop and implement a policy requiring new equipment to achieve EnergyStar Certification, where feasible.
- **Action I-5.3:** Conduct energy audits every 5 years and implement top energy recommendations. As part of CAAP monitoring, track energy improvements due to implementation of energy audit recommendations annually.
- **Action I-5.4:** Expand the utilization of automated lighting controls for indoor/outdoor lighting for JPA and LVMWD facilities pursuant to the current CEC Building Energy Efficiency Standards (Title 24, Part 6 and 11)
- **Action I-5.5:** Pursuant to the CEC 2022 Building Energy Efficiency Standards (Title 24, Part 6 and 11), require all new construction and building upgrades utilize light emitting diode (LED) lighting technology only.
- **Action I-5.6:** Continue to explore opportunities to employ artificial intelligence (AI) and machine learning (ML) to better optimize treatment processes and to increase energy efficiency.
- **Action I-5.7:** Require the implementation of cool roofs in the construction of all new and upgraded JPA and LVMWD facilities, to minimize absorption of solar energy and reduce building energy use.

Target Metrics

- Energy conserved
- Energy efficiency systems and upgrades implemented

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Increased Operational Efficiency & Resource Management

- Improved Operational Flexibility & Reliability

Measure I-6: Reduce process and fugitive GHG emissions associated with wastewater treatment.

Because technology for reducing methane emissions from wastewater treatment plants can be expensive and requires advanced planning, this measure is focused on preliminary feasibility analysis and investigating funding opportunities for future implementation. Technology is advancing and programs such as LCFS may provide cost-effective opportunities to convert captured methane to biofuel for electricity generation or vehicle fleet use. It is anticipated that wastewater emissions will become a major focus of California for reducing GHG emissions in the future, at which point additional incentives for this work is expected to become available. Additionally, implementation of the Pure Water Project Las Virgenes-Triunfo, will divert and treat effluent from the Tapia Water Reclamation Facility for potable reuse. The project will eliminate the need to discharge unused recycled water to Malibu Creek, minimizing associated fugitive GHG emissions to nearly zero.[7]

Actions

- **Action I-6.1:** Conduct a feasibility and cost analysis on the pathways to eliminate emissions associated with the biogas generated at Tapia Water Reclamation Facility through either biogas utilization, disposal or sale. The study should include an assessment evaluating the cost for upgrading the anaerobic digesters, opportunities for upgrading the biogas to pipeline quality biomethane, and opportunities for partnerships with other nearby biogas producers to sell the biogas to entities such as SCG looking to meet SB 1440.
- **Action I-6.2:** Investigate potential partnerships with entities looking to obtain biogas for fuel production for which LVMWD and the JPA could be a source.
- **Action I-6.3:** In alignment with the implementation of the Pure Water Project Las Virgenes - Triunfo, evaluate and track reductions in total Nitrogen to identify the amount of reduced fugitive emissions.

Target Metrics

- 97 percent reduction in fugitive emissions by 2030
- 97 percent reduction in fugitive emissions by 2045

GHG Emissions Reductions

- 5 MT CO_2e in 2030
- 6 MT CO_2e in 2045

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure I-7: Maximize backup power facilities for all critical assets.

As outlined for Measure I-4, procuring energy storage solutions to support LVMWD's and the JPA's facilities and buildings can support GHG emission reductions and mitigate impacts from power outages.

7 EPA. Pure Water Project Las Virgenes-Triunfo. https://www.epa.gov/wifia/pure-water-project-las-virgenes-triunfo. Accessed July 2023

Water utilities are one of the major electricity consumers in California. With future electricity demand forecasted to grow, water utilities are particularly at risk of localized energy shortages. Backup power facilities can provide resilience and redundancy to mitigate service disruptions during power outages.[8] This measure will reduce the potential impact of future power disruptions on key facilities and operations to provide future continuity of services across a wider range of conditions. New backup power facilities should be located outside of hazard areas or provided with adequate protection to mitigate potential damage and disruption.

Actions

- **Action I-7.1:** Catalogue fixed and mobile backup power requirements for all LVMWD and JPA facilities and develop design criteria/minimum requirements.
- **Action I-7.2:** Establish backup power policy/requirements that cover fixed and mobile solutions, staging, and procurement.
- **Action I-7.3:** Secure Hazard Mitigation Grant Program, California Governor's Office of Emergency Services (CAL OES), and other grant funding for battery energy storage solutions and renewable diesel.
- **Action I-7.4:** If deemed feasible, secure battery energy storage systems and new generators that use renewable fuel (e.g., renewable diesel, bio-diesel, etc.) for Tapia Reclamation Facility, the Westlake Filtration Plant, Rancho Composting Facility,and future facilities such as the Advanced Water Purification Facility

Target Metrics

- Assessments developed
- Battery storage solutions installed

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Improved Operational Flexibility & Reliability

Measure I-8: Support the regional development of dry and wet weather diversions as a supplementary source for recycled potable water.

Climate change exposures, such as an increase in prolonged periods of multi-year drought, are projected to increase the risk of reduced SWP and Colorado River deliveries. There is also an indication that more rain will fall from extreme weather events, which would increase the potential value of stormwater capture. LVMWD and the JPA will focus on developing and enhancing regional capabilities to increase dry and wet weather diversions as a supplementary source for recycled potable water.

Actions

- **Action I-8.1:** Partner with neighboring jurisdictions, starting with Agoura Hills to identify opportunities to develop dry and wet weather diversions to reduce imported water.

8 EPA. Climate Impacts on Water Utilities. https://www.epa.gov/arc-x/climate-impacts-water-utilities#tab-3. July 2023

- **Action I-8.2:** Position for funding programs, such as LA County Measure W, to fund design work to increase dry and wet weather diversions.
- **Action I-8.3:** Conduct an assessment to identify developing regulatory compliance issues associated with wet weather diversions and outline potential solutions.

Target Metrics

- Acre-feet of diversions
- Funding identified and obtained
- Assessment conducted

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Enhanced Water Supply Diversification

Measure I-9: Improve the Supervisory Control and Data Acquisition (SCADA) System.

A projected increase in the frequency and severity of climate hazards, such as extreme heat and extreme precipitation, will stress the ability of District staff to react and respond. A more capable SCADA system will enable more efficient reactions and responses to changing conditions and potentially reduce GHG emissions associated with water loss. A SCADA system provides LVMWD with automation and redundant control capabilities. An improved SCADA system can connect LVMWD employees to monitoring equipment that can provide information on flooding hazards, water quality, drainage levels, and much more, in real time. The SCADA system can report on maintenance issues and alert employees of critical issues that may be impacting water and wastewater operations.[9]

Actions

- **Action I-9.1:** Conduct an assessment to identify opportunities to upgrade or add field instrumentation hardware including sensors, actuators, relays, control units, and samplers such as for automatic leak detection throughout the distribution system. Utilize artificial intelligence (AI) and machine learning (ML) to automate SCADA data collection and analysis to provide additional operational improvements and achieve energy efficiency.
- **Action I-9.2:** Based on the assessment, procure field instrumentation hardware to adequately monitor and control all water system processes.
- **Action I-9.3:** Explore potential funding opportunities to finance SCADA system upgrades and improvements.
- **Action I-9.4:** Establish procedures to regularly conduct maintenance of SCADA systems to identify potential improvements and operational inefficiencies.
- **Action I-9.5:** Implement setpoint optimization techniques using AI and ML at Tapia Water Reclamation Facility, Lift Stations 1 and 2, and Rancho Las Virgenes Composting Facility.

9 LVMWD. Phase 2 White Paper: Tapping into Available Capacity in Existing Infrastructure to Create Water Supply and Water Quality Solutions. https://www.mwdh2o.com/media/3uyc3rvk/las-virgenes_phase-2_final-report.pdf

Target Metrics

- Field instrumentation hardware procured
- Funding obtained
- Procedures established
- Setpoint optimization techniques implemented

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability
- Better Connected People and Water

Measure I-10: Require the incorporation and identification of mitigation and adaptation features into new capital projects.

Climate change is projected to increase the variability of precipitation, the extent of wildfire risk, the frequency and amount of extreme precipitation, the susceptibility of landslides, the frequency and duration of extreme heat events, and the length and frequency of power outages. LVWMD's Infrastructure Investment Plan and other master planning documents should consider the vulnerability of facilities, infrastructure, and water resources to relevant climate change impacts.[10] This measure will guide future capital development to be designed with these future climate conditions and risks in consideration.

Actions

- **Action I-10.1:** Develop a process to prioritize when to apply and implement climate change-informed design criteria for flooding, extreme heat, landslides, wildfire and liquefaction.
- **Action I-10.2:** Integrate and regularly update best available climate science and projections into relevant planning documents and programs including the Urban Water Management Plan, Infrastructure Investment Plan, Hazard Mitigation Plan, Potable Water Master Plan, Recycled Water Mast Plan, Integrated Master Plan, and Sanitation Master Plan.
- **Action I-10.3:** Develop protocols to improve monitoring capabilities to ensure ongoing identification of vulnerable critical District assets in need of upgrades or retrofits.

Target Metrics

- Design criteria development and implemented
- Planning documents and programs updated

GHG Emissions Reductions

- GHG Emissions Not Quantified

10 EPA. Climate Impacts on Water Utilities. https://www.epa.gov/arc-x/climate-impacts-water-utilities#tab-3. Accessed July 2023

Objectives

- Better Protected Water Resources
- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure I-11: Implement the Pure Water Project Las Virgenes-Triunfo.

Implementing the Pure Water Project Las Virgenes – Triunfo is key to providing reliable potable water and reducing dependence on imported water in the future. The project will eliminate discharges to Malibu Creek, minimizing contaminants into the creek and fugitive GHG emissions. In 2022, the JPA Board of Directors approved the Programmatic Environmental Impact Reports for the Pure Water Project, providing a path forward for construction of the Advanced Water Purification Facility.[11] To guide the development of this facility in a climate resilient manner that minimizes GHG emissions, LVMWD and the JPA will work with developers and a consultant team to incorporate climate projections and potential impacts into the design process. Energy efficient equipment and fixtures at Pure Water Project facilities will also be installed and opportunities will be explored to implement additional onsite renewable and battery storage to increase operational resilience and mitigate GHG emissions.

Actions

- **Action I-11.1:** Continue with efforts to partner with a design/build team to design, construct, test, commission, and obtain governmental approval for the Advanced Water Purification Facility.
- **Action I-11.2:** Require the consultant team to review and integrate future climate projections and potential impacts into the design of the Advanced Water Purification Facility.
- **Action I-11.3:** Obtain funding for additional advising services to study and mitigate climate risks and GHG emissions specifically to the Pure Water Project Las Virgenes - Triunfo, through the EPA's Water Infrastructure Finance and Innovation Act, State of California's Clean Water and Drinking Water State Revolving Fund (SRF) programs, and Metropolitan's Local Resources Program (LRP).
- **Action I-11.4:** In alignment with Action I-36, conduct a feasibility study to identify the future energy needs of the Pure Water Project Las Virgenes – Triunfo and identify opportunities to minimize GHG emissions through energy efficiency, onsite renewables, and low-carbon and carbon-free electricity procurement.

Target Metrics

- Climate projection and potential impacts integrated into design
- Feasibility study completed
- Funding obtained

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Enhanced Water Supply Diversification

11 LVMWD. Pure Water Project Achieves Major Milestone. 2022. https://www.lvmwd.com/Home/Components/News/News/5988/22. Accessed July 2023

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

6.4 Operations Measures

Measure O-1: Electrify or otherwise decarbonize the vehicle fleet such that 75% of the vehicle fleet are zero-emission vehicles (ZEV) by 2030 and 100% of the vehicle fleet are ZEV by 2045.

California has developed a robust set of clean transportation policies and goals to decarbonize the transportation sector through implementation of ZEV technology, where feasible, and the use of low-carbon intensity fuels everywhere else. The Advanced Clean Cars II regulation requires that by 2035 all new passenger cars, trucks, and SUVs sold in California be zero emissions.[12]The Advanced Clean Fleets rule requires that fleets, businesses, and public entities that own or direct the operation of medium- and heavy-duty vehicles in California must transition to 100 percent zero-emission capable utility fleets by 2045. Under the regulation, LVMWD may choose to purchase only ZEVs beginning in 2024 and remove internal combustion engine vehicles at the end of their useful life or elect to meet the State's ZEV milestone targets as a percentage of the total fleet starting with vehicle types that are most suitable for electrification.[13]

Transitioning LVMWD's fleet vehicles to either EVs powered by carbon-free electricity or other zero-emission technology has the potential to bring this source to zero over time. The State also has several incentive and funding programs to support vehicle replacement and to promote infrastructure development. By beginning to implement the Advanced Clean Fleet Rule, LVMWD can access early action incentives. Transitioning to ZEV heavy-duty vehicles will be prioritized closer to 2045, as options become technologically and financially feasible.

Actions

- **Action O-1.1:** Conduct a study of the existing vehicle fleet to develop a schedule and policy to replace existing vehicles with EV/ZEV alternatives such that 75 percent of vehicles are replaced with EV/ZEV's by 2030 and 100 percent by 2045. Consider vehicle function, associated costs, available incentives, and ROI from potential fuel and maintenance savings when identifying vehicles for replacement and their EV/ZEV alternatives.
- **Action O-1.2:** For vehicles not identified for replacement by 2030 and/or vehicles that do not have EV/ZEV options available:
    - Evaluate options to reduce the weight of vehicles and integrate technology that monitors vehicle idleness, integrating efficient, smaller diesel engines before they can be electrified or otherwise decarbonized.
    - Consider partnering with heavy-duty EV companies to conduct pilots and facilitate advancements in technology for such vehicles.
    - Continue monitoring EV/ZEV availability and updating the vehicle replacement schedule to transition such vehicles by 2045.

12 CARB. Advanced Clean Cars II. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii. Accessed July 2023
13 CARB. Advanced Clean Fleets. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets. Accessed July 2023

- **Action O-1.3:** Complete an EV infrastructure plan to analyze LVMWD's charging needs through 2045 and beyond. As part of plan, create a prioritized list of EV charging/fueling infrastructure at specific locations.
- **Action O-1.4:** Partner with SCE's Charge Ready Program to plan and fund electric vehicle charger installations and panel upgrades at JPA and LVMWD facilities in alignment with the EV infrastructure plan.

Target Metrics

- 75 percent fleet conversion to ZEV by 2030
- 100 percent fleet conversion to ZEV by 2045

GHG Emissions Reductions

- 102 MT CO_2e in 2030
- 342 MT CO_2e in 2045

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure O-2: Increase employee commute ZEV adoption to 25% by 2030 and 50% by 2045.

Providing educational information on available Zero Emission Vehicle (ZEV) incentives/rebates and preferential parking for ZEVs in support of California's ZEV goals will further lower LVMWD's carbon footprint associated with employee commutes. The increase of Electric Vehicles (EVs) and ZEV use by employees for commuting is inevitable with the establishment of Zero-Emission Vehicle Regulation, which requires auto manufacturers to provide more ZEVs for sale in California to achieve the State's goal of 100 percent of sales of new passenger vehicles to be ZEV by 2035.[14] Programs like LCFS and the Clean Transportation Program (AB 118) provide credits or funding, for developing ZEV fueling infrastructure to incentivize the development of necessary ZEV infrastructure to support the new ZEVs on the road. Furthermore, CARB established a rebate program for individuals to replace their vehicles with a ZEV. As such, it is anticipated that California's goals and incentives will lead to an increased use of ZEVs by LVMWD employees.

LVMWD recognizes that current estimates indicate that approximately 40 percent of EV owners charge at work.[15] Given this fact, LVMWD and the JPA will install EV charging stations at its facilities for employees. Implementing this measure will encourage LVMWD employees to invest in personal EVs by reducing range anxiety, one of the leading reasons individuals opt to not switch to an EVs. This measure will also allow employees who live further away to commute via EV without worrying about making to work and back on a single charge.

Actions

- **Action O-2.1:** Install 30 additional EV chargers to support at least a 25 percent transition of employee-owned commuter vehicles to EV's or ZEV's (i.e., hydrogen fuel cell) by 2030. Locations

14 CARB. Zero-Emission Vehicle Regulation. https://ww2.arb.ca.gov/our-work/programs/zero-emission-vehicle-program/about. Accessed July 2023
15 Idaho National Laboratory. https://avt.inl.gov/sites/default/files/pdf/arra/PluggedInSummaryReport.pdf. Accessed July 2023

should best serve commuters that report to different JPA and LVMWD facilities and optimize use of on-site solar generation.

- **Action O-2.2:** Identify partnerships and funding opportunities such as enrollment in the LCFS program for credit generation, federal tax credit under 30C Alternative Fuel Infrastructure Tax Credit, and SCE rebates and partnerships to offset the costs to install EV charging infrastructure for commuters.
- **Action O-2.3:** Incentivize employee conversion to ZEVs by offering discounted vehicle charging or fueling for commuters.
- **Action O-2.4:** Promote employee use of EV's or ZEVs by providing educational materials on the benefits of EV's and ZEVs, available federal and state tax credits, and ROI for employees given free workplace charging.

Target Metrics

- 25 percent transition to ZEV among employees by 2030 and 50 percent transition by 2045.

GHG Emissions Reductions

- 48 MT CO_2e in 2030
- 136 MT CO_2e in 2045

Objectives

- Increased Operational Efficiency & Resource Management

Measure O-3: Reduce employee commute Vehicle Miles Traveled (VMT) by 15% by 2030 and 30% by 2045.

While LVMWD does not have direct control over the manner in which its employees travel to and from their jobs, it can facilitate alternative commute strategies, including use of active and shared/subsidized transit and continuing with implementation of its telework program. . Working remotely during the COVID-19 pandemic has reduced commuter vehicle miles traveled at LVMWD. Currently office workers, one third of staff, telework up to 2 days a week. LVMWD has implemented a policy allowing for continued remote work in perpetuity, , which will both prevent an increase in GHG emissions and reduce commuter vehicle miles travelled(VMT) for employees. LVMWD will expand and provide benefits to employees who utilize alternative forms of transportation for their commute. Rideshare incentives, pre-tax benefits, and other solutions like commuter competitions will be implemented over time in support of the goal of achieving a reduction in employee commutes.

Actions

- **Action O-3.1:** Allow for continued benefits of a full or partial work-from-home policy where employees telecommute or utilize flexible schedule to reduce transit time, VMT, and GHG emissions.
- **Action O-3.2:** Identify opportunities to fund rideshare incentives to employees who carpool. Offer other incentives to employees to use an alternative mode of transportation to commute (e.g., public transportation, bikes).
- **Action O-3.3:** Provide preferred parking for carpooling vehicles to incentivize carpooling by employees. Evaluate opportunities for other incentives to offer to employees for carpooling or lower VMT.

- **Action O-3.4:** Promote employee use of carbon-free and low carbon transportation by providing educational materials on the benefits of commute options including public transportation, EV/ZEV options, and vanpools.

Target Metrics

- 15 percent reduction of VMT by 2030
- 30 percent reduction of VMT by 2045

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Increased Operational Efficiency & Resource Management

Measure O-4: Develop a net zero waste program such that waste sent to the landfill is reduced by 90% by 2030 and maintain through 2045.

Waste generation contributes a small amount to the overall GHG emissions from LVMWD and JPA operations. Except when there are equipment outages at the Rancho Composting Facility, biosolids are already diverted by being converted into compost for reuse on landscapes. A majority of the GHG emissions resulting from waste sent to the landfill are caused by decomposition of organic material under anaerobic conditions.[16] The remainder of the emissions come from inorganic wastes, such as plastic, which have both upstream and downstream emissions. Therefore, increasing the diversion of organic and inorganic waste streams is a primary measure to reduce waste related GHG emissions. In alignment with SB 1383[17] and AB 34118, LVMWD will develop and implement a waste diversion plan to reduce organic waste sent to the landfill by 75 percent using 2014 levels as a baseline and strive to achieve zero-waste sent to landfills by 2045. This would include but not be limited to organic waste from employee break rooms. Additionally, LVMWD will report biosolid quantity and destination to CalRecycle in compliance with AB 901.

Actions

- **Action O-4.1:** Implement a program to separate organic waste from other materials. Contract with local waste disposal companies to route organic waste to food recovery centers, anaerobic digestion, or composting facilities such that 75 percent of organics generated from JPA and LVMWD operations is collected and diverted from the landfill by 2025.
- **Action O-4.2:** Conduct a waste assessment, including records examinations, facility walk-throughs, and waste sorting, across all facilities to identify waste sources generated, identify purchasing and management practices, examine current waste reduction practices and their effectiveness, and prioritize the most effective waste reduction efforts on an area and materials-focused basis.

16 According to the Local Governments for Sustainability (ICLEI) U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Appendix E – Solid Waste Emission Activities and Sources, GHG emissions are generated by non-biologic wastes only if they are combusted.
17 CalRecycle. California's Short-Lived Climate Pollutions Reduction Strategy. https://calrecycle.ca.gov/organics/slcp/. Accessed July 2023
18 CalRecycle. Mandatory Commercial Recycling. https://calrecycle.ca.gov/recycle/commercial/. Accessed July 2023

- **Action O-4.3:** Investigate funding opportunities to develop an organics program and deploy organic waste bins at all JPA and LVMWD facilities.
- **Action O-4.4:** Pursuant to AB 901, report the quantity and destination of disposed biosolids from wastewater treatment plants to CalRecylcle quarterly.
- **Action O-4.5:** Host staff training sessions to provide educational information on waste reduction practices to increase waste diversion at JPA and LVMWD facilities.

Target Metrics

- 75 percent organic waste reduction by 2025 compared with 2014 baseline[19]

GHG Emissions Reductions

- 133 MT CO_2e in 2030
- 153 MT CO_2e in 2045

Objectives

- Increased Operational Efficiency & Resource Management

Measure O-5: Increase water conservation reducing demands by at least 20% by 2030 and maintain through 2045.

LVMWD has a long history of promoting water conservation, which has resulted in measurable reduction in retail water usage and indirectly reduces GHG emissions. LVMWD has had a number of successful water conservation programs such as providing indoor rebates for water efficient appliances, landscape rebate programs, practicing and promoting water-efficient irrigation and low water usage planting, and developing education programs for customers. LVMWD achieved a 20 percent reduction in per capita water use as required by the Water Conservation Act of 2009 as a direct result of these programs. LVMWD will expand these water conservation efforts to achieve further reductions in per capita water use that will align with new state regulations. Reduced per capita water consumption allows LVMWD to meet the water demands of a growing population, reduce operational emissions, and increase resilience to future drought impacts. A 20 percent reduction by 2030 will be based on 2020 consumption levels.

Actions

- **Action O-5.1:** Continue water conservation and recycling efforts and programs by implementing the Potable Master Plan, Integrated Regional Water Management Plan, Recycled Water Master Plan, Urban Water Management Plan, Water Shortage Contingency Plan, and Flow Restrictor Program.
- **Action O-5.2:** Implement the Pure Water Project Las Virgenes – Triunfo (Measure I-11) to reduce dependence on imported water and help ensure long-term water supply reliability.
- **Action O-5.3:** Continue to reduce recycled water use for irrigation by 25 percent and potable water by 20 percent by 2030 compared to 2020 consumption levels.

19 SB 1383, effective 2022, sets statewide emissions reduction targets to 40 percent below 2013 levels by 2030 for methane, 75 percent reduction in organic material disposed in landfills from 2014 levels by 2025 and required jurisdictions to adopt ordinances or other enforceable mechanisms to impose penalties for non-compliance. LVMWD will be required to comply with local jurisdictions ordinances established to meet SB 1383 requirements.

- **Action O-5.4:** Continue outreach and engagement efforts to increase registration to 80 percent and use of the WaterSmart Portal to aid customers in managing usage and identifying leaks.
- **Action O-5.5:** Expand programs which educate customers on water conservation initiatives through workshops and speaking engagements. Continue to host and expand participation in the LVMWD Landscape Workshop Series providing information on drought-tolerant landscaping, available rebates for water retrofits, and water efficiency strategies in new and existing single-family residences and commercial/multi-family accounts.
- **Action O-5.6:** Continue with efforts to implement a landscape management plan for the JPA and LVMWD that consolidates and expands upon the goals and policies for landscaping at JPA and LVMWD properties. Identify whether and where there are additional resource-consumptive landscapes on property that can be changed out to more water-conserving, slower growth plants that require less maintenance. Continue to implement potable water conservation strategies in landscape design and maintenance (such as replacing water intensive areas with drought-resilient native plants. using low-flow water fixtures, installing sophisticated irrigation software to control water, investing in systems to monitor pipe leakage, and limiting turf development).
- **Action O-5.7:** Require new and redeveloped LVMWD/JPA owned properties to be low water use through landscaping with climate appropriate plants, permeable paving, green infrastructure, and incorporating other low-impact development design features to allow for increased infiltration, even in heavy rains.
- **Action O-5.8:** Continue to implement and expand on successful water conservation rebate programs (e.g., high efficiency toilets and clothes washers, weather-based irrigation controller, etc.) with a focus on providing opportunities for outdoor water efficiency improvements such as rotating sprinkler heads, in alignment with the current Statewide water conservation goals.
- **Action O-5.9:** Develop and adopt a schedule for installation of water meters in existing buildings and irrigation zones to establish a water consumption baseline at JPA and LVMWD owned properties with the Facilities Division. Reduce JPA and LVWMD water consumption per capita at facilities in alignment with the current statewide goals.
- **Action O-5.10:** Explore methods such as the deployment of a floating solar array to reduce the rate of evaporation from water storage facilities (e.g., Las Virgenes Reservoir).
- **Action O-5.11:** Investigate new advanced technology systems to maximize the ground-water recovery wells in Westlake Village to maintain local water supply. Invest in such technology as it becomes feasible and cost-effective. Consider other innovative ideas such as maximizing the storage potential of the Russel Valley Basin by installing injection wells to store excess water for later extraction.
- **Action O-5.12:** Update rates and modify fixed fees as needed so that the majority of fixed costs for water and wastewater services continue to be captured regardless of the amount of water consumption and wastewater collection and treatment.

Target Metrics

- Reduced water consumption by 20 percent by 2030 and maintain through 2045

GHG Emissions Reductions

- 855 MT CO_2e in 2030
- 0 MT CO_2e in 2045[20]

20 Senate Bill 100 requires all electricity providers in the state to provide 100 percent carbon free electricity by 2045; therefore, no GHG emissions reductions can be gained from water conservation measures in 2045, since the emissions factor for electricity will be zero.

Objectives

- Increased Operational Efficiency & Resource Management
- Improved Operational Flexibility & Reliability

Measure O-6: Develop resource programs and protocols to protect staff from climate extremes.

Climate change is projected to increase regional wildfire risk which is expected to contribute to worsened air quality from wildfire smoke and associated toxins. LVMWD is expected to experience an increase in the number of extreme heat days per year and an increase in overall average maximum temperature. Extreme heat events and smoke events can create or exacerbate health conditions of vulnerable District staff members. This measure seeks to reduce the potential health impacts to District staff. The first step for LVMWD is to start by educating employees of the health and safety risks associated with climate extremes and to conduct outreach to understand employee concerns. Development and implementation of specific protocols that align with California's Division of Occupations Safety and Health's (Cal/OSHA) standards and protocols will help protect LVMWD employees.[21]

Actions

- **Action O-6.1:** Develop and distribute a survey to staff to identify climate change impacts that pose health and safety risks to employees. As part of the survey, ask employees which existing policies and programs adequately provide them with resources to mitigate impacts and ask what potential programs and policies may provide additional resources to limit health and safety concerns associated with climate hazards.
- **Action O-6.2:** Develop internal protocols for District employees working under extreme heat conditions and air quality emergencies, in alignment with Cal/OSHA heat illness and prevention guidance.
- **Action O-6.3:** Develop protocols for wildfire emergencies and host annual practice/drills to ensure service continuity and employee safety.
- **Action O-6.4:** Provide employees with educational materials on relevant climate hazards and associated health and safety impacts (i.e., extreme heat induced health impacts) to increase awareness of risks and share best practices to increase adaptive capacity.

Target Metrics

- Develop and distribute survey to staff
- Develop protocols
- Develop and share education materials

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Better Connected People and Water

21 State of California Department of Industrial Relations. Heat Illness Prevention. https://www.dir.ca.gov/dosh/heatillnessinfo.html. Accessed July 2023

Measure O-7: Maximize operational flexibility and redundancies, including water transfer agreements, interties, flexible exchanges, additional system interconnections, and points of delivery.

Climate change is projected to increase the intensity, duration, and frequency of extreme heat and extreme weather events, which will increase the probability of power and water service disruptions. Additionally, LVMWD's potable water system is largely dependent on imported water supplies that may be subject to scheduled and unscheduled water delivery interruption that may impact the ability to deliver potable water. This measure seeks to increase redundancies and operational flexibilities to protect service continuity during emergency/hazard scenarios and potable water disruptions. LVMWD has a history of fostering strong partnerships with local and regional entities including Calleguas Municipal Water District, Triunfo Water and Sanitation District, Los Angeles Department of Water and Power (LADWP), and neighboring jurisdictions.[22] Developing interties, water transfer agreements, and other redundancies will improve future reliability.

Actions

- **Action O-7.1:** Partner with neighboring water providers, starting with District 29, to develop additional emergency water system interties to ensure water service continuity and reliability.
- **Action O-7.2:** Continue partnering with Calleguas Municipal Water District and LAWDP to improve connectivity with Metropolitan Water District's Colorado River Aqueduct (CRA) system via the East-West Feeder, Sepulveda Pass and other opportunities.
- **Action O-7.3:** Continue to coordinate with neighboring jurisdictions to ensure adequate water availability and peak load water supply for fire suppression efforts in alignment with CAL FIRE's recommendations.
- **Action O-7.4:** As necessary, increase storage capacity where feasible at water system facilities to prepare for wildfire and drought periods.

Target Metrics

- Agreements, interties, system interconnections and other redundancies developed

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Enhanced Water Supply Diversification
- Improved Operational Flexibility & Reliability
- Better Connected People and Water

22 LVMWD. Las Virgenes-Calleguas Interconnection Project. https://www.lvmwd.com/our-services/construction-projects/construction-projects-completed/las-virgenes-calleguas-interconnection-project. Accessed July 2023

6.5 Natural Resources Measures

Measure NR-1: Investigate and implement carbon sequestration opportunities to offset all Water Reclamation Facility fugitive emissions by 2045.

This measure provides opportunities for negative emissions through carbon sequestration on natural and working lands (e.g., rangeland, forests, woodlands, wetlands and coastal areas, grasslands, shrubland, farmland, riparian areas, and urban green space). Carbon sequestration programs will be an important tool to mitigate some of LVMWD's and the JPA's emissions. While carbon sequestration programs can require a large investment up-front, this cost could be mitigated through credit generation opportunities based on CARB's "Carbon Capture and Sequestration protocol" adopted in 2018 as well as through other voluntary and Federal carbon markets.[23]

Actions

- **Action NR-1.1:** Conduct an assessment to identify the District's potential capacity for planting new trees, identify a timeframe for implementation, outline a management plan for existing trees, and establish a tracking system to assess progress towards an annual benchmark.
- **Action NR-1.2:** Partner with TreePeople or other organizations to develop and host an annual employee tree planting day.
- **Action NR-1.3:** Increase carbon sequestration by planting and supporting 25 new trees annually through 2030 to sequester carbon and create shade to reduce heat island effect.
- **Action NR-1.4:** Explore grant funding opportunities for tree planting. Identify and apply for applicable federal (e.g., USDA) and state (e.g., California ReLeaf, Affordable Housing and Sustainable Communities Program [AHSC], Urban and Community Forestry Program) available grants for Tree Planting projects.
- **Action NR-1.5:** As part of the Landscape Transformation Initiative, develop landscape guidance materials that include information regarding flora CO_2 sequestration potential to promote the incorporation of landscape plants that are both climate resilient and CO_2 sequestering. Climate resilient species have characteristics of drought tolerance, low water use, pest and disease resistance, fire-retardant or fire-resistance, and salinity tolerance. Consider vegetative options with higher CO_2 sequestration potential for JPA and LVMWD facilities landscaping.

Target Metrics

- 25 new trees planted annually through 2030

GHG Emissions Reductions

- 6 MT CO_2e in 2030
- 48 MT CO_2e in 2045

23 CARB. 2023. Carbon Capture and Sequestration Protocol. https://ww2.arb.ca.gov/resources/documents/carbon-capture-and-sequestration-protocol-under-low-carbon-fuel-standard#:~:text=California%20Air%20Resources%20Board,-Main%20navigation&text=The%20Carbon%20Capture%20and%20Sequestration,(CO2%2D%20EOR). Accessed July 2023

Objectives

- Better Protected Water Resources
- Increased Operational Efficiency & Resource Management

Measure NR-2: Catalog and improve the stability of hillside monitoring and stabilization efforts after heavy rain events in areas at risk of landslides and debris flows to minimize impacts to infrastructure and equipment.

Climate change is projected to increase the frequency and intensity of extreme precipitation events and wildfires, which can increase landslides and debris flow susceptibility. This measure seeks to implement mitigation efforts to minimize infrastructure and equipment vulnerability to landslides and debris flows. Implementing landslide monitoring equipment can report critical data regarding slope stability / hillside movement and precipitation measurements. Equipment may also provide automated warming and alarms in advance of a potential hazard scenario.[24]

Actions

- **Action NR-2.1:** Conduct a landslide risk vulnerability assessment of critical assets to identify which assets are most vulnerable to damage from landslides and debris flows.
- **Action NR-2.2:** Install landslide monitoring equipment in landslide susceptibility areas that are adjacent to critical assets.
- **Action NR-2.3:** Based on the vulnerability assessment, conduct hardening upgrades to critical JPA and LVMWD assets that are most vulnerable to damage from landslides and debris flows.

Target Metrics

- Assets upgraded
- Monitoring equipment installed

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Better Protected Water Resources

Measure NR-3: Protect Las Virgenes Reservoir from sedimentation associated with extreme climate events.

Climate change is projected to increase the frequency and intensity of extreme precipitation and wildfires, which may trigger erosion and landslides, increasing sediment levels in Las Virgenes Reservoir which can lead to water quality impacts.[25] This measure seeks to protect Las Virgenes Reservoir from increased

24 Call&Nicholas Instruments, Inc. Real-Time Slope Monitoring. https://www.slideminder.com/. Accessed July 2023
25 EPA. Climate Adaptation and Erosion and Sedimentation. https://www.epa.gov/arc-x/climate-adaptation-and-erosion-sedimentation. Accessed July 2023

sedimentation through various sediment control management efforts that are focused to minimize erosion, remove sediment, and increase treatment capabilities.

Actions

- **Action NR-3.1:** Develop procedures to regularly measure reservoir sedimentation volume to determine the varying rates and patterns of potential storage loss.
- **Action NR-3.2:** Implement strategies to mitigate reservoir sedimentation including sediment removal by dredging or flushing.
- **Action NR-3.3:** Develop a vegetation and erosion management strategy to mitigate fire risk around Las Virgenes Reservoir to minimize potential post-fire soil erosion impacts on reservoir sedimentation.
- **Action NR-3.4:** Increase wastewater treatment capabilities to manage potential future sediment levels from future stormwater, landslide, wildfire, and erosion impacts.

Target Metrics

- Sediment level reduced

GHG Emissions Reductions

- GHG Emissions Not Quantified

Objectives

- Better Protected Water Resources

Measure NR-4: Develop and implement a wildfire abatement and response policy.

Climate change is projected to increase the frequency and intensity of wildfire in the District's service area. LVMWD and JPA assets and infrastructure located in High, and Very High Fire Hazard Severity Zones are at greatest risk to impacts from wildfire. Wildfire can create risk of injury or death, damage to properties, critical facilities, infrastructure, and need for evacuation. Cascading impacts may also include worsened air quality, contaminated water supplies, power outages, and other service disruptions. This measure seeks to mitigate wildfire risk and potential future impacts through strategies that reduce vegetation and structural ignition, harden infrastructure and assets, and increase fire suppression capabilities. Relocating critical infrastructure and facilities outside of Fire Hazard Severity Zones should be considered if retrofits and upgrades are not feasible or provide adequate protection from potential fires.[26]

Actions

- **Action NR-4.1:** In the development of a wildfire abatement and response policy, develop strategies to mitigate risk from wildfire through defensible space, fire-safe landscaping, reduction of structural ignition, fire resistant retrofitting, fire suppression water flow, and vegetation management, in alignment with CAL FIRE guidance, standards, and building codes.
- **Action NR-4.2:** Develop criteria for future structure and facility developments to reduce vulnerability to ember ignition.

26 UC ANR et al. 2021. Wildfire & Water Supply in California. https://innovation.luskin.ucla.edu/wp-content/uploads/2021/12/Wildfire-and-Water-Supply-in-California.pdf. Accessed July 2023

- **Action NR-4.3:** Dedicate staff time to identify funding (e.g., CAL FIRE or FEMA) to implement upgrades or retrofits to mitigate wildfire risk.
- **Action NR-4.4:** Conduct hardening upgrades to structures and facilities (i.e., reservoirs, pump structures, treatment facilities, and administrative offices) that are in CAL FIRE High and Very High Fire Hazard Severity Zones.
- **Action NR-4.5:** When retrofits and upgrades are not adequate or feasible, develop plans to relocate critical assets outside of CAL FIRE High and Very High Fire Hazard Severity Zones to the extent practicable.
- **Action NR-4.6:** Develop a schedule and monitor vegetative management efforts and defensible space relative to critical assets at risk.
- **Action NR-4.7:** Coordinate with CAL Fire, Los Angeles County Fire Department, and surrounding property owners to ensure adequate fire road access to critical JPA and LVMWD facilities.

Target Metrics

- Wildfire abatement and response policy development and implementation
- Facilities and structures retrofitted, upgraded, or relocated

GHG Emissions

- GHG Emissions Not Quantified

Objectives

- Better Protected Water Resources
- Improved Operational Flexibility & Reliability
- Better Connected People and Water

7. Implementation and Monitoring Strategy

CAAP Implementation

This CAAP outlines specific measures and actions to achieve GHG emissions reduction and improve the resilience of LVMWD's and the JPA's operations to climate change. Implementation of the CAAP is planned to occur between 2023 and 2045. Due to the long implementation time-period of the CAAP, measures and actions may evolve over time as LVMWD tracks progress, new technologies and legislation emerge, and funding opportunities for additional GHG emissions reduction and climate adaptation opportunities are identified. This section details LVMWD's and the JPA's implementation plan for the CAAP, which will include transforming measures and actions into on-the-ground policies, programs, and projects. Implementation of this CAAP is grounded in science, best available data, and current best practices in climate action and adaptation planning.

Steps for Implementation: Action Prioritization

The CAAP will take a phased approach to action implementation.

Phase 1 will occur in the near-term (beginning of 2023–2026).

Phase 2 will include the implementation of mid-term actions (2026–2029).

Phase 3 will include the implementation of long-term actions (2029–2045).

Near-term actions with the greatest return for the least amount of investment, such as energy efficiency projects, water efficiency projects, and protocols/policies, often provide opportunities for early GHG reductions and climate adaptation from which future capital or time-intensive actions can build. Feasibility studies and surveys can often be completed in the near-term to set a foundation for long-term capital investments or infrastructure developments that will provide LVMWD with significant GHG emissions reduction, lifecycle cost savings, and long-term resilience to the impacts of climate change.

Table 7-1 provides a summary of the priority measures and actions, as well as their identified phase, responsible department, and metrics for tracking. The CAAP primarily focuses on Phase 1 and 2 measures and actions. Over time additional actions may need to be adopted to achieve the long-term goal of carbon neutrality and further adapt to climate change. New technologies and approaches should be monitored and incorporated into future planning initiatives.

Responsible Parties

Planned CAAP implementation and monitoring is central to the success of any CAAP in achieving GHG reduction targets and increasing resilience to climate change. Implementation planning involves

identifying responsible parties for implementation. Several divisions within LVMWD will play a key role in the CAAP's implementation and monitoring. Responsible parties are listed and described below.[1]

Facilities

LVMWD's Facilities Division is responsible for the maintenance, regulatory compliance, and replacement needs of the District Headquarters, potable water, recycled water, and sanitation facilities. The Division will play a critical role in implementing waste, energy, and other resource reduction measures, carbon capture and sequestration measures, and several climate hazard mitigation measures at LVMWD and JPA facilities. The maintenance team will also be responsible for identifying opportunities to increase energy efficiency and to decarbonize vehicles, stationary equipment, and facilities.

Water Systems

LVMWD's Water Systems Division is responsible for the day-to-day operations, and regulatory compliance of the potable water distribution, storage and treatments facilities and the recycled water storage and conveyance system. . The Division will play a key role in future implementation and operations of the Advanced Water Purification Facility for the Pure Water Project Las Virgenes - Triunfo, maximizing operational flexibility and redundancies, and increasing regional dry and wet weather diversions.

Water Reclamation

LVMWD's Water Reclamations Division is responsible for the day-to-day operations and regulatory compliance of the Tapia Water Reclamation Facility. The Division will play a key role in efforts to reduce GHG emissions associated with wastewater treatment, increase wastewater treatment capabilities, and manage future battery storage systems at water system facilities.

Finance

LVMWD's Finance Division is responsible for managing the purchasing processes, financing options, and cost-effectiveness of the District's operations. In collaboration with other departments and divisions, the Division will play a major role in identifying and administering funding and financing opportunities to support the implementation of CAAP actions, especially those that require significant capital investments including solar photovoltaics, EV chargers, and battery storage solutions.

Human Resources

LVMWD's Human Resources Division provides guidance and support to all departments for recruitment, selection, classification/salary structures, employee benefits, employee relations, employee training, labor negotiations, performance evaluations, employee development, safety and other personnel programs and processes. The Division will play a critical role in leading efforts to implement protocols

1 LVMWD. 2023. Management. https://www.lvmwd.com/the-district/departments. Accessed July 2023

and programs to protect staff from climate extremes and promoting continued efforts to support LVMWD's teleworking program and other potential programs such as rideshares.

Information Systems

LVMWD's Information Systems Division supports a local area network with servers, software applications, desktop computers, laptops, wireless access points, firewalls, switches, and closed-circuit television (CCTV) cameras. The Division also manages the SCADA system, web services, Multiprotocol Label Switching (MPLS) network, Voice Over Internet Protocol (VOIP) telephony, Geographic Information Systems (GIS) and many real-time IP based communications systems, such as security video applications. The Division will play a critical role in improving LVMWD's SCADA system to increase operational efficiency, optimization, and control.

Engineering and Technical Services

LVMWD's Engineering and Technical Servies Division is primarily responsible for project engineering and management, construction, and inspections. The Division will play a key role in conducting feasibility studies and assessments and managing capital improvement projects, such as onsite renewables, batter storage systems, and facility hardening upgrades.

Public Affairs and Communications

LVMWD's Public Affairs and Communications Division manages the external communications for LVMWD and works closely with local partners, including schools and community organizations to promote water awareness, water conservation, and environmental stewardship. The Division often supports and participates in local community events around these topics. The Division will play a key role in continuing and developing new outreach and engagement efforts around water conservation and climate resilient landscaping.

Resource Conservation

LVMWD's Resource Conservation Division is responsible for the management of LVMWD's water resources and conservation efforts. The Division administers LVMWD's rebate programs including but not limited to the Weather-Based Irrigation and the Rain Barrel Giveaway/Rebate programs and the Landscape Transformation Program. The Division will play a key role in implementing CAAP efforts related to increasing water conservation, expanding rebate programs, and supporting the conversion from water intensive landscaping.

Customer Service

LVMWD's Customer Service Division is responsible for customer billing, water meter installations and maintenance, water meter data management, the installation of flow restrictors and service shut-offs associated with wasteful water use, and other customer-centric tasks.

Table 7-1. Implementation Timeline by CAAP Action

Measure/Action	Phase	Primary Implementing Divisions	Implementation Metric
Measure I-1 Utilize carbon-free electricity for 100% of electricity needs by 2030.			
I-1.1	2-3	Engineering and Technical Services, Facilities	MW of solar installed
I-1.2	1	Engineering and Technical Services, Facilities	Feasibility study completed
I-1.3	1	Engineering and Technical Services, Facilities	Assessment completed
I-1.4	1-2	Engineering and Technical Services, Facilities, Finance	Funding identified
I-1.5	2-3	Engineering and Technical Services, Facilities	MW of solar installed
I-1.6	1-2	Engineering and Technical Services, Facilities	Incorporate design elements to minimize GHG emissions
I-1.7	1	Engineering and Technical Services, Facilities, Finance	Analysis completed
I-1.8	1	Facilities	Switch to low carbon or carbon-free electricity
I-1.9	1	Engineering and Technical Services, Facilities	Study completed
Measure I-2 Electrify new and existing stationary equipment to reduce natural gas consumption 75% by 2030 and 100% by 2045.			
I-2.1	1	Engineering and Technical Services, Facilities	Survey completed
I-2.2	1	Facilities, Finance	Policy implemented
I-2.3	1-2	Facilities, Finance	Funding and partnership opportunities identified
I-2.4	1-3	Facilities	Schedule implemented
Measure I-3 Utilize renewable diesel and alternative fuels to bridge the technology gap and decarbonize stationary equipment to reduce diesel consumption by stationary equipment 100% by 2030.			
I-3.1	1	Facilities	Feasibility assessment completed
I-3.2	1-2	Facilities	Partners identified
I-3.3	1	Facilities, Finance	Policy implemented
I-3.4	1	Facilities	Educational materials developed
I-3.5	1-3	Facilities, Finance	LCFS credits monetized
Measure I-4 Increase energy storage at facilities and buildings.			
I-4.1	1	Engineering and Technical Services, Facilities	Assessment completed

Measure/Action	Phase	Primary Implementing Divisions	Implementation Metric
I-4.2	1	Engineering and Technical Services, Facilities	Feasibility study completed; battery storage identified
I-4.3	1-2	Facilities, Finance	Funding opportunities identified
I-4.4	1-3	Facilities	Time of use program documentation
Measure I-5 Improve energy efficiency at facilities and buildings.			
I-5.1	1	Facilities, Water Systems, Water Reclamation	Equipment due for replacement identified; ROI analysis completed
I-5.2	1-3	Facilities, Water Systems, Water Reclamation	Policy developed and implemented
I-5.3	1-3	Facilities, Water Systems, Water Reclamation	Energy audits conducted; Energy recommendations implemented
I-5.4	1-3	Facilities, Water Systems, Water Reclamation	Automated lighting controls implemented
I-5.5	1-3	Facilities, Water Systems, Water Reclamation	Requirement implemented
I-5.6	1-3	Facilities, Water Systems, Water Reclamation	Electricity usage reduced
I-5.7	1-3	Engineering and Technical Services, Facilities	Cool roofs implemented
Measure I-6 Reduce process and fugitive GHG emissions associated with wastewater treatment.			
I-6.1	1-2	Engineering and Technical Services, Water Reclamation	Feasibility and cost analysis completed
I-6.2	1-2	Engineering and Technical Services, Water Reclamation	Partnerships identified
I-6.3	2-3	Engineering and Technical Services, Water Reclamation	Total nitrogen reduced
Measure I-7 Maximize backup power facilities for all critical assets, in alignment with Measure I-4			
I-7.1	1	Engineering and Technical Services, Facilities	Backup power facilities identified
I-7.2	1	Engineering and Technical Services, Facilities	Requirement established and implemented
I-7.3	1-2	Engineering and Technical Services, Facilities, Finance	Funding secured
I-7.4	1-2	Engineering and Technical Services, Facilities	Battery energy storage system procured; generators procured
Measure I-8 Support the regional development of dry and wet weather diversions as a supplementary source for recycled potable water.			
I-8.1	1	Engineering and Technical Services, Facilities, Water Reclamation, Water Systems	Acre-feet of diversions
I-8.2	1-2	Engineering and Technical Services, Facilities, Water Reclamation, Water Systems, Finance	Funding programs identified

Measure/Action	Phase	Primary Implementing Divisions	Implementation Metric
I-8.3	**1**	Engineering and Technical Services, Facilities, Water Reclamation, Water Systems	Assessment conducted
Measure I-9 Improve the Supervisory control and data acquisition (SCADA) system.			
I-9.1	1	Information Systems, Water Systems, Water Reclamation	SCADA design criteria revised
I-9.2	1-2	Information Systems, Water Systems, Water Reclamation, Finance	Field instrumentation hardware procured
I-9.3	1-2	Information Systems, Water Systems, Water Reclamation, Finance	Funding obtained
I-9.4	1-2	Information Systems, Water Systems, Water Reclamation	Procedures established
I-9.5	1	Information Systems, Water Systems, Water Reclamation	Setpoint optimization techniques implemented
Measure I-10 Require the incorporation and identification of mitigation and adaptation features into new capital projects.			
I-10.1	1	Engineering and Technical Services, Facilities, Water Systems, Water Reclamation	Design criteria developed and implemented
I-10.2	1-3	Engineering and Technical Services, Facilities, Water Systems, Water Reclamation	Planning documents and programs updated
I-10.3	1	Engineering and Technical Services, Facilities, Water Systems, Water Reclamation	Protocols developed
Measure I-11 Implement the Pure Water Project Las Virgenes Triunfo			
I-11.1	1-2	Engineering and Technical Services, Water Systems, Facilities, Finance	Advanced Water Purification Facility developed
I-11.2	1-2	Engineering and Technical Services, Water Systems, Facilities, Finance	Climate projections and potential impacts integrated into design
I-11.3	1-2	Finance	Funding obtained
I-11.4	1-2	Engineering and Technical Services, Water Systems, Finance	Feasibility study completed
Measure O-1 Electrify or otherwise decarbonize the vehicle fleet such that 75% of the vehicle fleet are zero-emission vehicles (ZEV) by 2030 and 100% of the vehicle fleet are ZEV by 2045.			
O-1.1	1	Facilities Maintenance, Finance	Study completed
O-1.2	1-2	Facilities	Pilots conducted
O-1.3	1	Engineering and Technical Services, Facilities	EV infrastructure plan completed
O-1.4	1-2	Engineering and Technical Services, Facilities, Finance	EV charger installations funded; Panels upgraded
Measure O-2 Increase employee commute ZEV adoption to 25% by 2030 and 50% by 2045.			
O-2.1	1-2	Facilities Maintenance	EV chargers installed

Measure/Action	Phase	Primary Implementing Divisions	Implementation Metric
O-2.2	1-2	Facilities Maintenance, Finance and Accounting	Partnerships and funding opportunities identified
O-2.3	1	Facilities Maintenance, Finance and Accounting	Vehicle charging/fueling discounted
O-2.4	1	Facilities Maintenance	Education materials developed and disseminated
Measure O-3 Reduce employee commute Vehicle Miles Traveled (VMT) by 15% by 2030 and 30% by 2045.			
O-3.1	1-3	Human Resources	Employee commute VMT reduced
O-3.2	1-3	Facilities, Finance	Funding opportunities identified
O-3.3	1-3	Human Resources, Facilities, Finance	Preferred parking spots developed; Incentives offered
O-3.4	1-3	Human Resources, Finance, Public Affairs and Communications	Educational materials developed and disseminated
Measure O-4 Develop a net zero waste program such that waste sent to the landfill is reduced by 90% by 2030 and maintain through 2045.			
O-4.1	1	Resource Conservation, Facilities	Organic waste separation program implemented
O-4.2	1	Resource Conservation, Facilities	Waste assessment conducted
O-4.3	1-2	Resource Conservation, Facilities	Funding opportunities identified
O-4.4	1-3	Resource Conservation, Facilities	Quarterly reports completed
O-4.5	1-3	Resource Conservation, Facilities	Staff training sessions hosted
Measure O-5 Increase water conservation reducing demands by at least 20% by 2030 and maintain through 2045.			
O-5.1	1-3	Resource Conservation, Customer Service, Public Affairs and Communications	Programs and plans implemented; Water conserved
O-5.2	2	Engineering and Technical Services, Facilities, Finance	Pure Water Project implemented
O-5.3	1-2	Resource Conservation, Customer Service, Public Affairs and Communications	Recycled water use reduced; Potable water use reduced
O-5.4	1-3	Customer Service	WaterSmart Portal Registrants
O-5.5	1-3	Resource Conservation	Workshops hosted
O-5.6	1	Resource Conservation	Landscape Management Plan prepared
O-5.7	1-3	Resource Conservation	Policy implemented
O-5.8	1-3	Resource Conservation	Water conservation rebates provided

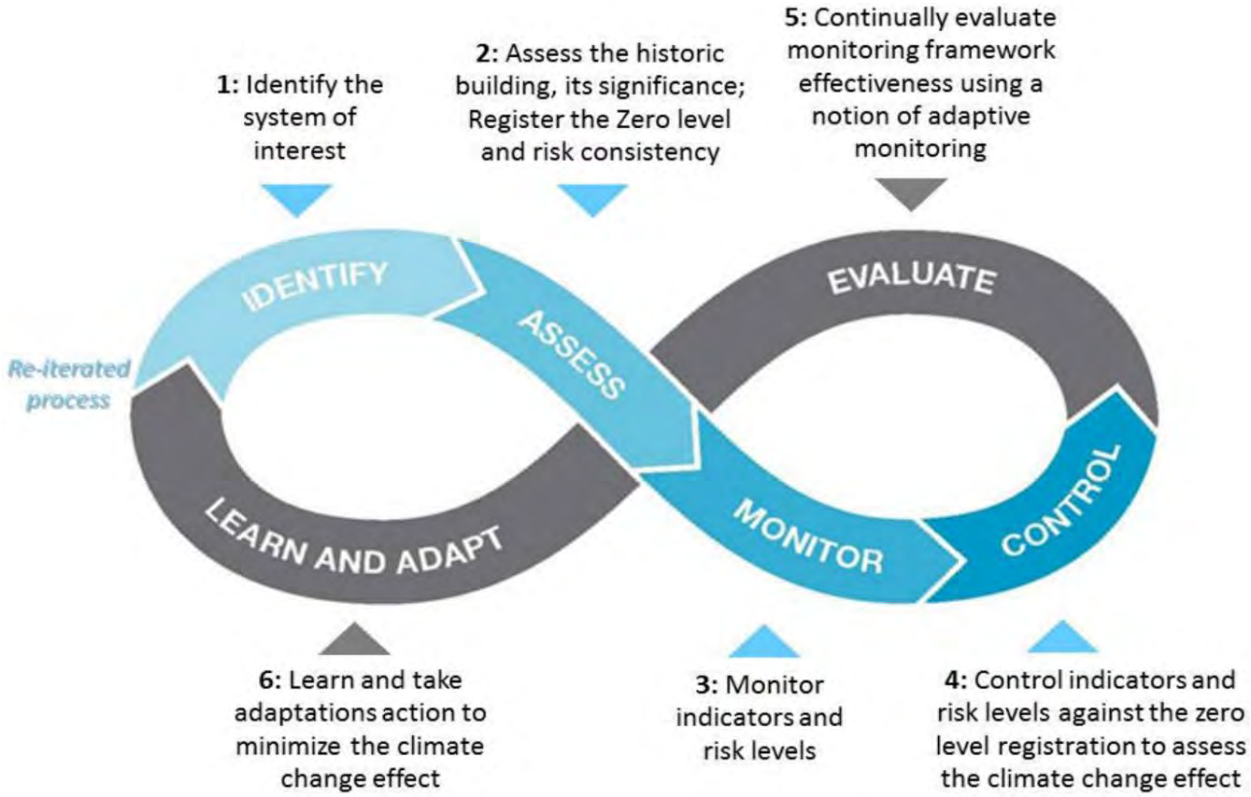
Measure/Action	Phase	Primary Implementing Divisions	Implementation Metric
O-5.9	1	Customer Service	Schedule developed; Water meters installed
O-5.10	1-2	Engineering and Technical Services, Facilities	Water evaporation rate reduced
O-5.11	1-2	Engineering and Technical Services, Facilities, Water Systems	Technology procured
O-5.12	1	Finance	Rate structure changes implemented
Measure O-6 Develop resource programs and protocols to protect staff from climate extremes.			
O-6.1	1	Human Resources	Survey developed and distributed
O-6.2	1	Human Resources	Protocols developed
O-6.3	1	Human Resources	Protocols developed; Practice/drills hosted
O-6.4	1	Human Resources, Public Affairs and Communications	Educational materials developed and disseminated
Measure O-7 Maximize operational flexibility and redundancies, including water transfer agreements, interties, flexible exchanges, additional system interconnections, and points of delivery.			
O-7.1	1-2	Engineering and Technical Services, Water Systems	Interties developed
0-7.2	1-3	Engineering and Technical Services, Water Systems	Connectivity improved
O-7.3	1-3	Engineering and Technical Services, Water Systems	Peak load water supply requirement met
O-7.4	1-2	Engineering and Technical Services, Water Systems	Water storage facilities developed
Measure NR-1 Investigate and implement carbon sequestration opportunities to offset all Water Reclamation Facility fugitive emissions by 2045.			
NR-1.1	1	Engineering and Technical Services, Resource Conservation	Assessment conducted
NR-1.2	1-3	Resources Conservation	Annual employee tree planting day hosted
NR-1.3	1-2	Resource Conservation	Trees planted
NR-1.4	1-2	Engineering and Technical Services, Resource Conservation, Finance	Funding opportunities identified and secured
NR-1.5	1	Resource Conservation	Landscape guidance materials developed and disseminated
Measure NR-2 Catalog and improve the stability of hillside monitoring and stabilization efforts after heavy rain events in areas at risk of landslides and debris flows to minimize impacts to District infrastructure and equipment.			

Measure/Action	Phase	Primary Implementing Divisions	Implementation Metric
NR-2.1	1	Engineering and Technical Services	Vulnerability assessment completed
NR-2.2	1-3	Engineering and Technical Services	Landslide monitoring equipment installed
NR-2.3	1-3	Engineering and Technical Services	Assets upgraded
Measure NR-3 Protect the Las Virgenes Reservoir from sedimentation associated with extreme climate events.			
NR-3.1	1	Engineering and Technical Services, Water Systems	Procedures developed and implemented
NR-3.2	1-3	Engineering and Technical Services, Water Systems	Sediment removed
NR-3.3	1-2	Engineering and Technical Services, Water Systems	Vegetation and erosion management strategy developed and implemented
NR-3.4	1-2	Engineering and Technical Services, Water Systems	Sediment level reduced
Measure NR-4 Develop and implement a wildfire abatement and response policy.			
NR-4.1	1	Engineering and Technical Services, Facilities, Finance	Policy developed
NR-4.2	1	Engineering and Technical Services, Facilities, Finance	Criteria developed
NR-4.3	1-2	Engineering and Technical Services, Facilities, Finance	Funding identified and secured
NR-4.4	1-3	Engineering and Technical Services, Facilities, Finance	Structured and facilities upgraded
NR-4.5	2-3	Engineering and Technical Services, Facilities, Finance	Relocation plans developed
NR-4.6	1-3	Engineering and Technical Services, Facilities, Finance	Schedule developed
NR-4.7	1-3	Engineering and Technical Services, Facilities, Finance	Adequate fire road access maintained

CAAP Monitoring and Reporting on Progress

The climate action and adaptation planning process is infinitely iterative, as shown in Figure 7-1. As strategies and actions are implemented, it is imperative to assess success by tracking emissions reductions and variables such as cost and additional benefits achieved through implementation in order to understand the overall impact of each strategy. While substantial evidence suggests that the mitigation and adaptation measures and actions outlined in this CAAP have a high level of probability to achieve the 2030 target, consistent with SB 32, and increase resilience to climate change, uncertainty increases over time. If LVMWD determines that implementation of specific strategies is not achieving the anticipated emissions reductions or resilience improvement, the strategy may have to be revised or replaced in order to establish a path forward to meet LVMWD's ultimate goal of carbon neutrality by 2045.

Figure 7-1 CAAP Implementation and Monitoring Process



LVMWD CAAP Update Timeline

LVMWD's Director of Engineering and External Affairs will report results on monitoring and implementation of each action, develop an updated GHG inventory, and report findings to LVMWD's and the JPA's Board of Directors annually. Every 5 years, LVMWD should update the CAAP to include an updated GHG emissions forecast, assessment of climate change vulnerabilities, implementation status, and/or revised measures and actions. Technology, State legislation, funding, and operational changes over time may impact the rate of implementation and need for modification of LVMWD's measures and actions. Therefore, LVMWD's Director of Engineering and External Affairs will work with responsible

department and division leaders to re-evaluate climate action and adaptation progress and factors influencing implementation. Through the evaluation process, LVMWD may consider revising measures and actions in future CAAP updates.

Targets will be re-evaluated and assessed on a periodic basis to gauge progress made, address new regulations, and best practices, and evaluate LVMWD's ability to achieve GHG emissions reduction through the measures and actions outlined in Chapter 6. Additionally, climate change projections and potential impacts should be updated, as part of the Climate Change Vulnerability chapter (Chapter 3), in alignment with best available climate science. Measures and actions should be adjusted as more data and information become available to LVMWD. They should also be tracked congruently with future State GHG reduction and climate adaptation legislation to ensure alignment.

Monitoring and Reporting Timeline

The CAAP implementation metrics will be monitored on an annual basis to track climate action and adaptation progress. The Director of Engineering and External Affairs will prepare an update on the implementation status of the CAAP's Measures (Table 7-1) on an annual basis, starting in 2024. As new technologies become available and new State mandates are adopted, LVMWD may need to develop new or updated measures and actions. Re-evaluation of the CAAP's measures and actions will occur approximately every 5 years or more frequently. The Director of Engineering and External Affairs will report implementation monitoring results for each action, GHG inventory update results, and CAAP re-evaluation results to the LVMWD and JPA Board of Directors on an annual basis.